

News from Peter Buerki

(Career Transition Newsletter)

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Yellowstone National Park, September 2002 © Peter Buerki

BRIEF SUMMARY

- Peter left GIA after six years doing science in one of the most exotic corners of analytical chemistry (page 3). After re-assessing his position (page 4), career objectives (page 4), and target markets (page 8), he has embarked on a career transition campaign.
- He describes himself as a *Ph. D. chemist with a passion for the frontiers of science (page 4). He has worked for 15 years in materials science and instrument development and did research on the synthesis and characterization of high-tech ceramics and nanomaterials. He designed instrumentation and software and has worked for universities and corporate research institutes in five countries. He is a leader with a pioneering mind and likes a new challenge. He prefers a hands-on approach to research and perseveres when others give up. He motivates and coaches people and sets high standards for himself and others.*
- Peter's career objective includes three plans (page 4): He wants to become a team leader in i) corporate or ii) academic research (assistant professor) and work on the synthesis and characterization of nanomaterials including materials synthesis under space conditions. Alternatively, he wants to iii) design and utilize robotic and automated instrumentation to explore and work in remote or inaccessible environments.
- He completely revamped his resume and interactive resume webpage at <http://www.geocities.com/pbuerki> (page 5). The latest versions of his resume and CV can be downloaded from his webpage in pdf format.
- Peter has defined target locations (page 6), and organizations (page 8). He would prefer to stay in Southern California, but is willing to relocate.
- He recently applied for US citizenship (page 6) in order to become eligible for government jobs, e.g., NASA.
- He provides a first list of applications in progress and target organizations/companies for which he seeks information (page 8).
- He needs your help and asks for your information and referrals. He appreciates your willingness to act as references on his behalf, write reference letters, and recommend him to companies and people that you know (page 7).

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INTRODUCTION

Hello everyone,

This is your first issue of my new newsletter, which is intended to inform you about my present career transition and my future endeavors. I am planning to send you more or less regular updates in the future, depending on what new developments there will be to report on. (Future editions will be shorter than this one.)

Let me first wish all of you who have not heard from me for a while a Happy and Peaceful New Year 2003, and all the best to you and your families. The fact that I did not keep in touch with many of you does not mean that I have forgotten you. I am glad to report that we are fine and healthy, and that we still live in beautiful Southern California. Already six years have passed since we moved here. Time sure is running. Here are our most recent coordinates:

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I had some trouble with my efax provider. They have cancelled my (free) efax account without notifying me. In case that you have tried to send me a fax over the past six months or so and have not received an answer, this is why. For the time being, I am using a temporary fax number until further notice.

LEAVING GIA

December 11, 2003 was my last day at the Gemological Institute of America (GIA). Leaving GIA was not an easy decision. As some of you might know, I had a passion for minerals and gemstones since I was a boy. Thus, for somebody like me, GIA was like the Holy Grail. Nowhere else could I see so many fantastic, rare and valuable crystals and gemstones. At GIA I also discovered my new passion for pearls and in particular South Sea Pearls. I was the first chemist that they hired and had the opportunity to do some unique science in one of the most exotic corners of analytical chemistry. I spent six exciting years with GIA and met many interesting people who are now my friends. But over time, I also realized that their needs and my skill-set did not match very well, and it became time for me to move on, back into a more research-oriented environment.

I have been looking for a new opportunity for some time, but because of marketing myself poorly, I was not successful in the past. Thus, I decided to take some time off to be able to fully concentrate on my career transition. With the beginning of this year, I started developing a career

search and marketing strategy with the support of a consultant from a leading executive outplacement firm in the San Diego area. In the meantime, I have completely revamped my application materials and resume web page (<http://www.geocities.com/pbuerki>). The most current version of my resume can be downloaded as pdf file or printed by clicking on the link "*Download your own Copy*".

WHAT HAS BECOME OF PETER ?

I am a Ph. D. chemist and project manager with a passion for the frontiers of science and a vision to make the world a better place for all. I have 15 years of expertise in materials science and instrument development, including

- * gas-phase synthesis of high-tech ceramics and nanomaterials,
- * microgravity research,
- * design of equipment, instrumentation and data acquisition software.
- * modern analytical chemistry,

I have worked for universities and corporate research institutes in Europe, Japan, and the USA. I am a self-directed, dedicated leader with a pioneering mind who likes a new challenge, likes hands-on work, and perseveres when others give up. I motivate and coach people and set high standards for myself and others.

You might have noticed that I eliminated the word "diamond" entirely. While my expertise in many aspects of diamonds was a main reason why I was hired by GIA, stressing this skill proved to be counterproductive in the long run, as it obscured the fact that I am really a generalist who is interested and able to work in many different fields. This does not mean that I am no longer interested in diamond research.

PETER'S PROFESSIONAL OBJECTIVES

I have identified three areas in which I would like to work in the future, i.e., Plans A, B and C. (Note that I am also interested in (and able to contribute to) other fields at the frontiers of science, such as astrobiology and oceanography.)

Plan A (Corporate Research, National Laboratories, Industry):

Lead a close-knit, committed interdisciplinary R&D team with a common goal and mission that i) synthesizes and characterizes nanopowders and new materials, ii) develops novel applications in the fields of catalysis, sensors, fuel cells, energy-efficient, and sustainable technologies, iii) designs and constructs scientific equipment and instrumentation.

Plan B (University):

A tenure-track position, leading a close-knit, committed team of undergraduate and graduate students that i) designs and constructs scientific equipment and instrumentation, ii) synthesizes and characterizes nanopowders, and iii) develops novel applications in the fields of catalysis, sensors, fuel cells, energy-efficient, and sustainable technologies. My teaching interests include general chemistry for science major and non-major students, laboratory courses, analytical and instrumental analytical chemistry.

Plan C (Instrument Development):

Leading a close-knit team of specialists that i) develops and uses instrumentation for automated and robotic experiments to explore remote and inaccessible environments (deep sea/oceanography, Antarctica, other planets, interior of the earth, clearing of mine fields for peaceful purposes), or ii) develops prototypes and software interfaces for analytical instruments, including Windows-based software interfaces for refurbished equipment running on outdated software.

One of my strongest interests is the *human exploration and development of space*, the utilization of space as a tool for research, and in particular *astrobiology* and *materials research under space conditions*. After having participated as Principal Investigator and Experimentator in the 25th ESA Parabolic Flight Campaign in 1998, I am captured by this still new and exotic tool of research, i.e., microgravity. I have never been so sick in my life as during my first flight day, but I have also never experienced more exiting moments than during this "largest roller coaster ride on this world". Floating in mid-air for a total of 40 minutes that was so great! Although it was much fun, it was also a time of hard work and serious science.

The tragic accident of the Columbia space shuttle was a deep shock for me and reminded everyone of the risks involved in space research. But nevertheless I consider the exploration of space a worthwhile cause and a part of our cultural development and identity. Thus, I welcomed the US government's confirmation of its commitment to continue the US space program. And I hope that this also means that more funds will be made available for the safety of our heroes in space, and for the use of the space station for scientific purposes. The Columbia accident also re-emphasized the importance of designing robotic and remotely controlled space experiments that do not require the physical presence of a human being whenever possible.

Microgravity is an environment that is so far from our daily experience and intuition that the unexpected is happening all the time. Space is one of the last true frontiers of research. One can still do research on a "look and see" base, because the results are often surprising and can often not be predicted.

RESUME AND INTERACTIVE RESUME WEBPAGE

If you have time, please take a look at my completely revised interactive resume website at <http://www.geocities.com/pbuerki>. The universities and institutions that I have worked for in the past and many other topics of interest are accessible through web links. A publication list and list of presentations is also included and many of my publications are available as full text (with permission of the respective publishers). A copy of my resume and CV can be downloaded as a pdf file and printed for your reference.

TARGET LOCATIONS

For the time being, I would like to stay in Southern California (San Diego and Orange County, i.e., area South of Los Angeles), but I would also consider relocating to other places on the West and East Coast of the USA, as well as parts of Colorado and Arizona. On a global scale, I am interested in jobs in Japan, and Europe, but I would need to keep my US residency for at least another six to twelve months, i.e., until I will receive my US-citizenship.

CITIZENSHIP APPLICATION

After living in the USA as a permanent resident (green card) for more than five years, I became eligible for US-citizenship. Some of you may be surprised by my decision to apply for becoming a US citizen. But I have several reasons and the decision was not made lightheartedly:

1. Many jobs in the USA, and particularly most jobs at NASA, are restricted to US-citizens.
2. If I were to move away from the USA for an extended period of time, I would lose my green card, and it would be very difficult to come back.
3. Switzerland permits dual citizenship. Thus, I will not lose my Swiss citizenship. In today's global society, having dual citizenship is a valuable asset.
4. I am continuing an old family tradition. All of my great-aunts and great-uncles immigrated to the USA between 1922 and 1930 filling the need for watchmakers.
5. Last but not least, I want to get the right to vote in the USA and become a full member of US society sharing all the rights and duties of its citizens.

Thus, I am currently learning US history for my citizenship exam. This is quite interesting.

PETER NEEDS AND APPRECIATES YOUR HELP

As many of you may be aware, a job search may be a lengthy process. And for this I need and appreciate your help. There are several ways that you can support me in my search:

1. First of all, let me know if you know or hear of a position that might be of interest to me. I can best be reached by e-mail at pbuerki@cox.net or pbuerki@netscape.net.

2. Let me know, too, if you know the name of a company or organization that I might be interested in, but do not know yet.
3. Share your insider knowledge with me of companies on my target list (page 8). Maybe you have worked there in the past yourself or know somebody who has worked there.
4. Any information, names and contact addresses of human resources and research department managers within my target companies whom you know personally is of value to me.
5. Recommend me to companies and people that you know or give them a copy of my resume (downloadable from my web page at <http://www.geocities.com/pbuerki>).
6. Write reference letters on my behalf.

REFERENCES AND RECOMMENDATIONS

Companies that will be interested in me will ask for references and recommendations. Thus I would much appreciate your willingness to act as a reference for me. This may include writing a letter of reference, a recommendation letter, or providing information about me over the phone or by e-mail.

Many universities are asking for three letters of reference to be sent directly by the referees at the time of the application. However, this placed a considerable burden on some of you in the past for writing and mailing these letters. I truly value the time and efforts that you made and the expenses that you incurred to prepare and ship these letters for me. A way to circumvent this issue in the future would be to send me a signed and undated generic reference letter that I could copy and send out to the universities I am applying for. Thank you very much for your willingness to help me.

There is no need to write a reference letter right now. But I would appreciate, if you would indicate your willingness to do this for me. In case that I would need a letter from you, I would be contacting you personally.

APPLICATIONS IN PROGRESS

Currently, I have applied for the following positions (follow the links to the job postings):

Research Associate (<http://www.geocities.com/pbuerki/JobPostings/NCMR02122003.htm>)

Applied to: Thomas P. Jacobson, Deputy Director, National Center for Microgravity Research on Fluids and Combustion, c/o NASA-Glenn Research Center, Mail-Stop 110-3, 21000 Brookpark Road, Cleveland, OH 44135

Scientist (<http://www.geocities.com/pbuerki/JobPostings/ArgonneNatlLab02122003.htm>)

Applied to: Dr. Samuel D. Bader, Director, Center for Nanoscale Materials, Argonne National Laboratory, MSD/223, 9700 South Cass Avenue, Argonne, IL 60439

If you know these persons or somebody working for them, please contact me immediately. Thank you.

TARGET ORGANIZATIONS AND INDUSTRIES

I am looking for information, leads, names and addresses, insider information, and referrals for any of the following organizations and companies:

Organizations, National Laboratories, NASA

NASA Glenn Research Center at Lewis Field (former NASA Lewis Research Center)
Members of NASA Astrobiology Institute
Member of NASA Human Exploration and Development of Space (HEDS) program
Carnegie Institution, Washington
Smithsonian Institution, Washington
Argonne National Lab
Lawrence Berkeley National Laboratory
Lawrence Livermore National Laboratory
National Renewable Energy Laboratory
NSF Particulate Materials Center, University Park, Pennsylvania
NASA affiliates engaged in materials research and astrochemistry (e.g., Goddard Space Flight Center, Ames Research Center)
Monterey Bay Aquarium Research Institute, Moss Landing, California

Other research institutions

Corporate Research

ChevronTexaco Technology Ventures
General Electric Corporate R&D
Corning Corporate R&D
Du Pont Corporate R&D
Lucent Technologies (former Bell labs)
IBM Corporate R&D
Toyota Central R&D Laboratories, Japan
Novartis Research Foundation (GNF), San Diego
Agilent Technologies (used to be part of Hewlett Packard)

Other corporate research centers
Research and technology development companies

Companies

Nanotechnologies, Austin, Texas
Symyx Technologies, Inc., Santa Clara, California
Superior MicroPowders, Albuquerque, New Mexico
Millenium Cell, Inc. Eatontown, New Jersey
Nanopowder Enterprises, Inc., Piscataway, New Jersey
NanoProducts Corporation, Longmont, Colorado
NanoGram Corporation, Fremont, California
MER (Materials and Electrochemical Research Corporation), Tucson, Arizona
Nanophase Technologies Corporation, Romeoville (Chicago area), Illinois
Boeing
Lockheed Martin (Missiles & Space)

Other companies and organizations actively engaged in research on sustainable and energy-efficient technologies (e.g., fuel cells, solar cells, hydrogen conversion and storage, carbon sequestration)

Developers of specialized scientific instrumentation for the exploration of remote, inaccessible, or hostile environments, including space, deep sea, Antarctica, interior of the earth, other planets, and clearing of mine fields for peaceful purposes.

Developers and consulting firms for medical and scientific instrumentation (diagnostic equipment, sensors, lab-on-a-chip), refurbishers of scientific and laboratory equipment

Universities

Departments of Chemistry, Materials Science, and Chemical Engineering at
University of California San Diego (UCSD)
San Diego State University (SDSU)
University of California Irvine (UCI)
San Marcos State University
University of San Diego
University of California Los Angeles (UCLA)
University of California Santa Barbara
University of California Berkeley
University of California San Francisco
California Institute of Technology (Caltech)
Stanford University
Princeton University
University of Pittsburgh
University of Boulder, Colorado
Massachusetts Institute of Technology (Boston, Cambridge)
Caltech, Pasadena, California
Advanced Materials Processing and Analysis Center, Univ. of Central Florida, Orlando
Center for Advanced Microgravity Materials Processing, Northeastern Univ., Boston

Other universities in my target locations (page 6)