

THE UNIVERSITY OF IOWA



October 28, 2005

Yves Brun
Systems Biology/Microbiology Faculty Search
Department of Biology
Indiana University
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Bloomington, IN 47405-7005

Dear Dr. Brun:

The following is a letter of recommendation for **Dr. Joshua Shrout** who, as I understand it, has applied for a faculty position in your department. I have known Josh since he entered the University of Iowa in the fall of 1998 - I have served as his Ph.D. advisor. I can recommend him to you without reservation.

Josh was selected to receive a fellowship from our NSF-funded Research Training Grant "Gene Expression in Bioremediation", an interdisciplinary program involving students and faculty from our departments of Microbiology, Biology, Biochemistry, Natural Products Chemistry, Chemical and Biochemical Engineering, and Civil and Environmental Engineering. This experience has prepared him well for a future that will be driven by interdisciplinary research. As part of this program, engineering students like Josh served in rotations in laboratories in the Dept. of Microbiology, working with Drs. Peter Greenberg and Carrie Harwood. While there, and subsequently, he learned a variety of "molecular tools" that make him uniquely qualified as an engineer to conduct research in biological systems engineering.

Josh has published two manuscripts based on his Ph.D. research and has a third under review. He has published in conference proceedings and presented posters and made platform presentations at international meetings such as the Battelle Bioremediation conferences held in San Diego and Monterey (alternating years). He understands the importance of getting his research published.

Josh already has experience in writing successful research proposals. He became interested in bioremediation of perchlorate during the year he was rotating in the labs of Drs. Greenberg and Harwood. Professor Jerry Schnoor of our department was interested in perchlorate remediation using poplar trees. Our interest is in bacteria that respire perchlorate. We collaborated on a proposal that Josh mostly wrote and which provided funds for the last two years of his Ph.D. research. In addition, Josh was the primary author and Co-PI (as a Post Doc) on a continuation of this same project. A goal is to take the technology to the field at the Longhorn Army Ammunition Plant in Texas. A manuscript based on this work has just been accepted for publication in *Environmental Science & Technology*. Josh has made presentations of this work at several conferences.

Josh obtained additional research experience in his Post Doc experience with our SERDP-funded project investigating various aspects of remediating the explosive RDX using bioaugmentation of Fe(0). He had the primary responsibility of writing progress reports and determining the direction of future research. Two manuscripts based on this work are under review (in fact, one may have already been published). Josh has presented aspects of this work at national and international conferences.

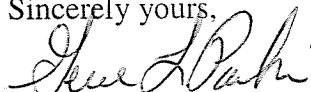
Since 2003 Josh has been working as a Post-Doc in Prof. Matt Parsek's laboratory in the Dept. of Microbiology. This is a unique, interdisciplinary experience for Josh and will give him skills that will set him apart from most all other environmental engineering and science faculty, and qualifies him for positions in environmental microbiology programs. He is learning and using molecular tools that will help him conduct research that most of us are not qualified to do. For example, he is working with quorum-sensing bacteria in biofilms, among other things. He has given presentations on this work, is co-authoring a book chapter with Matt, and will no-doubt publish his work.

I feel strongly that Josh will become an excellent teacher, primarily because he cares very much about teaching. He has given a variety of departmental seminars that are always well prepared, well organized, and given with passion. These are the attributes of a good teacher. I have had him substitute for me when I have missed class. So did Professor Pedro Alvarez.

Finally, Josh is a high-quality young man. He is honest and acts with integrity. He works well in a group and alone. As I mentioned above, it was Josh's idea that we begin work in perchlorate – nobody else in our department was working in the area. Josh helped to supervise undergraduate and MS researchers. He has helped my graduate students learn new techniques. He gets along well with his colleagues; while a student he was one of our graduate student leaders.

In summary, I have a very high regard for Josh Shroust and his potential for becoming an excellent faculty member. He has already done many of the things that faculty do (publish, write proposals, review journal manuscripts, give invited talks, etc.). He wants to be in academia and I believe he will be good at it. I highly recommend him to you. If any other information is required, please don't hesitate to contact me.

Sincerely yours,



Gene F. Parkin, Ph.D., P.E.

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