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Doz. Dr. sc. E. Donath

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To whom it may concern,

Berlin, den 15.11.51

Recommendation Letter For Dr. A. Sokirko

I came into personal contact with Dr. A. Sokirko in January. 1990. Within the framework of my collaboration with Dr. Pastushenko from the Frumkin Institute of Electrochemistry, Department of Bioelectrochemistry, he introduced him to me as a very capable young scientist in the field of interfacial electrochemistry. The above institute has a great tradition in Theoretical Electrochemistry and Bioelectrochemistry. Many excellent physicists work there.

During a subsequent 9-weeks stay at our university Dr. A. Sokirko worked with one of my colleagues on the interaction of external electromagnetic fields with ellipsoidal and toroidal microscopic particles immersed into an electrolyte solution. During this short stay I had the opportunity to watch his enormous physical and mathematical capabilities allowing him to obtain the solutions of a number of problems in an astonishingly short time. He was also very much interested in the related experimental work.

Dr. A. Sokirko impressed me with his unusual high energy and efficiency he applied to work. He was full of original ideas. It was always a pleasure to discuss with him. I also watched how he was able to overcome the various problems arising in his country when he tried to organize himself a postdoc positions abroad.

In conclusion, there is no doubt that Dr. A. Sokirko will be invaluable in any group working in the Field of Physical Chemistry or in related sciences.

Doz. Dr. sc. E. Donath



beglaubigt:

Prof. Dr. R. Heinrich

(Head of Institute)



Prof. Dr. A. A. Kornyshev

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## *To whom it may concern*

Ihre Nachricht vom / Zeichen

Bei Beantwortung bitte angeben

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JÜLICH

8. II. 95

Dr. Artjom Sokirko is an interesting, gifted and very productive young theorist working in electrochemistry, physical chemistry and chemical engineering. He started his scientific carrier with the works on rotation of vesicles in electric field and non-linear pore conductivity, aimed on developing models for interpretation of particular bioelectrochemical experiments. Then, he moved into the theory of migration-diffusion processes in electrolyte solutions, from the very fundamental problems of mass and charge transfer in electrolytes to applied studies of the ion transport controlling the operation of the lead acid batteries. His works on migration current exaltation and study of possibilities to increase the diffusion limiting current in electrolytes have high chances not only to get into textbooks on electroanalytical chemistry (after systematic experimental verification, of course), but also to find practical applications in acceleration of battery recharging process.

Following features are typical for his work:

1. Usually very original results, frequently with unexpected effects.
2. Excellent mathematical performance; ability to derive results in analytical form, convenient for the treatment and interpretation of experimental data or good as a basis for new electroanalytical methods.
3. Addressing computers when the brain cannot help anymore, but not before! Ability to verify and check the computer results by a thinking process.
4. Good feeling of physics and common sense.
5. Easy enter into a new field (based on good mathematical and physical background).
6. Interest both to fundamental and applied aspects of the problems.

Personal features:

1. Keen interest in novel research, new effects, scientific mysteries, nontrivial aspects.
2. No panic in the case of puzzles and troubles, be it controversy with experiments or computer program bugs; an ability to find a solution by timely concentration of efforts.
3. Excellent humour and optimism.
4. No snobbism or complexes; easy-going-ness.

I outline his gift for teaching and a keen interest in new methods in education. (He had an experience to teach in elite school for kids with special talents in physics and mathematics (he taught both), Moscow School N2, the earlier generation of its pupils now working in many world centres of excellence).

Artjom had an experience to work in most competent laboratories in his field (c.f. CV), which helped him to get rather broad experience. His work *for experimentalists* differs him from a number of trained-in-Russia theorists, in ability to formulate his thoughts in a comprehensive and practically useful form.

I would not hesitate to recommend Artjom for a junior Faculty position at the Department of Physical Chemistry, Chemical Engineering, Bioelectrochemistry or Energy Research groups to any most advanced University. Colleagues will benefit from co-operation with him, while students will enjoy and get a lot from his classes. I hope he will learn to earn grants as easily as he was getting his research awards.

Alexei A. Kornyshev



(Leader of the Theory Group)



Datum/Date

fre 21 okt 1994

Inst Dep.

Kemiteknik/Tillämpad Elektrokemi

*Department of Chemical Engineering and Technology*

*Applied Electrochemistry*

Handläggare, direktivansnummer

Daniel Simonsson, 790 8078

## Letter of recommendation for Dr Artjom V. Sokirko

I have known Dr Artjom Sokirko since his stay in Sweden from September 1991 until the end of 1993, during which period he was supported financially by the Royal Swedish Academy of Science. He was then working with Professor Fritz Bark at the Department of Hydromechanics at our Institute, with whom we had already established a cooperation on fluid motion in electrochemical systems, which Dr Sokirko also joined. Within the framework of this project we had many possibilities to discuss a lot of different relevant scientific problems. My most direct contacts with Dr Sokirko were connected to a joint work on modeling of the lead-acid cell and experimental validation of the model. In this work Dr Sokirko demonstrated very convincingly his good knowledge in mathematics and numerical methods as well as a good physical insight into the problems, as he worked out effective numerical solutions of the fairly complicated mathematical problem.

Also at the many meetings on other topics, Dr Sokirko proved to be an extraordinarily capable scientist, who very rapidly could understand the problem of interest, devise a method for its solution and work this out in a very short time for different problems in very different areas. With his solid background in mathematics, physics and (electro)chemistry he has demonstrated a great flexibility by attacking and solving problems from cell biology to theoretical physics.

Due not only to his scientific skills but also to his personal qualifications, including his sense of humour, it has been very pleasant and fruitful to work with Dr Sokirko and I can therefore strongly recommend him for a position dealing with electrochemistry, electrochemical engineering and related areas.

Yours sincerely

Daniel Simonsson

Professor of Applied Electrochemistry



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November 9th, 1994

### TO WHOM IT MAY CONCERN

We have known that Dr. Artjom V. Sokirko has recently applied for a position at your University. We carried out scientific research in collaboration with him during 1992-93, and would like to support his application with this recommendation letter.

Dr. Sokirko is a skilled theoretical physicist who has been able to work satisfactorily in a broad range of scientific fields at both research institutes and universities. In particular, our joint work concerns fundamental studies on membrane electrochemistry, and has resulted in two joint papers. Recently, he has successfully applied his knowledge on physical chemistry, computer science and mathematics to difficult problems in the areas of electrochemistry and biophysics. Despite his short age, his broad professional experience and exceptional knowledge can certainly permit him to teach a wide variety of chemistry, physics and math courses. Therefore, we sincerely think that he would be an ideal candidate for a basic teaching/research position at any University. He happens to be an open-minded, pleasant colleague, and he is also able to deal with different people rather easily, what could help him in the daily academic activities. He has spent the last five years working in different universities all over the world, and then he is very fluent in english.

In closing, we consider Dr. Sokirko as a suitable candidate, and would be happy to continue cooperating with him in the next future.

Yours Sincerely.

Dr. Jose A. Manzanares

Associate Professor of Applied Physics

Dr. Salvador Mafé

Associate Professor of Applied Physics

Академия наук СССР  
ИНСТИТУТ ЭЛЕКТРОХИМИИ им. А. Н. ФРУМКИНА

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Ref, = Application for the Huaboldt-Foundation from Dr. A.Sokirko

Dr. Artjom Sokirko has defended his Ph.D. dissertation in 1989 at the A.N.Frumkin Institute of Electrochemistry of the Academy of Sciences of the USSR., following work under my supervision from 1986 to 1989. We worked jointly on the theory of transport phenomena in electrochemical systems with parallel chemical reactions.

In my opinion Dr.Sokirko has obtained a number of interesting new results important for electrochemical kinetics. These results has been achieved due to Dr. Sokirko's intensive and meticulous work and his competence as a theoretical physicist, Being a most talented scientist, he has been able to delve quickly into new scientific problems and to choose independently methods for their solution. In my view he possesses the best academic qualifications which could justify a research programme abroad, A research grant would further undoubtedly be greatly beneficial to his scientific work and hold great promises for his future scientific achievements. I certainly hope myself that my cooperation with him will continue after his return,

*Kharkats*



Yurij I, Kharkats  
Professor of physical chemistry  
The A.N.Frumkin Institute of Electrochemistry  
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**7th April 1993**

**To Whom It May Concern**

**This is to certify the *Artjom Sokirko* is working in this Department between March and October 1993. He is funded by the Royal Society under their Post-doctoral Fellowship Scheme.**

**Please do not hesitate to contact me if you require any further information.**

A handwritten signature in black ink, appearing to read 'R. G. Compton', with a long horizontal flourish underneath.

**Dr. Richard G. Compton**

**(University lecturer in Physical Chemistry,  
Tutor, St. John's College)**