



# Electrochemistry of Silicon and Its Oxide

By Xiaoge Gregory Zhang

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## Electrochemistry of Silicon and Its Oxide By Xiaoge Gregory Zhang

It may be argued that silicon, carbon, hydrogen, oxygen, and iron are among the most important elements on our planet, because of their involvement in geological, biological, and technological processes and phenomena. All of these elements have been studied exhaustively, and voluminous material is available on their properties. Included in this material are numerous accounts of their electrochemical properties, ranging from reviews to extensive monographs to encyclopedic discourses. This is certainly true for C, H, O, and Fe, but it is true to a much lesser extent for Si, except for the specific topic of semiconductor electrochemistry. Indeed, given the importance of the electrochemical processing of silicon and the use of silicon in electrochemical devices (e. g. , sensors and photoelectrochemical cells), the lack of a comprehensive account of the electrochemistry of silicon in aqueous solution at the fundamental level is surprising and somewhat troubling. It is troubling in the sense that the non-photoelectrochemistry of silicon seems “to have fallen through the cracks,” with the result that some of the electrochemical properties of this element are not as well known as might be warranted by its importance in a modern technological society. Dr. Zhang’s book, *Electrochemical Properties of Silicon and Its Oxide*, will go a long way toward addressing this shortcoming. As with his earlier book on the electrochemistry of zinc, the present book provides a comprehensive account of the electrochemistry of silicon in aqueous solution.

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## **Electrochemistry of Silicon and Its Oxide By Xiaoge Gregory Zhang Bibliography**

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## **Editorial Review**

### **Review**

‘Dr. Zhang provides an encyclopedic compilation of the literature on the many electrochemical effects that impact the processing of silicon and its native oxide. This book will be an important reference for the silicon specialist and may have within its pages that key detail which will explain process anomalies to the MEMS practitioner.’

**Steve Senturia, Weller Professor of Electrical Engineering, Massachusetts Institute of Technology**

‘This book is a must for every laboratory where semiconductor electrochemistry is actively pursued. It is a welcome and recommended addition to every library of an institution where electrochemistry is a subject of active research.’

**Journal of Solid State Electrochemistry, 7:5**

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#### **Rudy Nixon:**

This Electrochemistry of Silicon and Its Oxide book is absolutely not ordinary book, you have after that it the world is in your hands. The benefit you will get by reading this book will be information inside this reserve incredible fresh, you will get info which is getting deeper you read a lot of information you will get. This Electrochemistry of Silicon and Its Oxide without we comprehend teach the one who reading through it become critical in pondering and analyzing. Don't become worry Electrochemistry of Silicon and Its Oxide can bring when you are and not make your case space or bookshelves' turn into full because you can have it with your lovely laptop even cell phone. This Electrochemistry of Silicon and Its Oxide having great arrangement in word along with layout, so you will not sense uninterested in reading.

#### **James Pierce:**

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#### **Lillie Corley:**

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**Lena Garcia:**

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