

Note: The meeting date is the Monday just after Thanksgiving. Please plan accordingly.

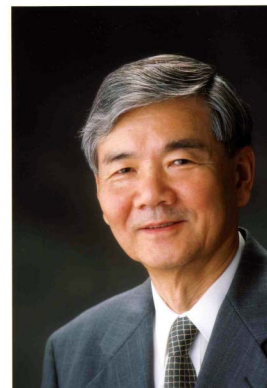


THE  
CHROMATOGRAPHY  
FORUM  
OF DELAWARE VALLEY

**November Meeting**  
Monday, November 26, 2007

## **THE DEVELOPMENT OF MICELLAR ELECTROKINETIC CHROMATOGRAPHY**

**Shigeru Terabe**  
University of Hyogo, Emeritus Professor,  
Kamigori, Hyogo, JAPAN



**Abstract:** Just after the development of capillary electrophoresis (CE), we started research in CE in 1982, when I was in Kyoto University, with an intention to develop a new high efficiency separation technique using ionic micelles in electrophoretic buffer. It took for a while for us to publish the first paper on micellar electrokinetic chromatography (MEKC) because the first submission was rejected by the journal *Analyst*. After the publication of the first paper on MEKC (*Anal. Chem.*, 1984, 56, 111-113), the fundamental characteristics of MEKC were extensively investigated and several techniques have been developed to enhance the value of the new technique. There were several issues to be solved for MEKC to be useful as a general separation technique. In particular, on-line sample preconcentration for neutral analytes and mass spectrometric (MS) detection were major problems. Sweeping is a solution of the first issue and it is an efficient technique for the preconcentration of both neutral and ionic analytes using micelles. Although several techniques have been developed for on-line MEKC-MS, MEKC-MS is not yet widely accepted. In my talk, I will explore the development of the technique, provide some successful applications, and predict the future direction of MEKC.

**About the Speaker:** Shigeru Terabe is professor emeritus of University of Hyogo and has had an illustrious career in industry and academia. He was born in Toyokawa, Japan and obtained all of his training at the Kyoto University, Kyoto, Japan having culminated with a D.Eng. degree in 1973. Prior to obtaining a Ph.D., he worked in industry at the Shionoji Research Laboratories, a pharmaceutical company in Osaka, Japan. He twice was in the United States furthering his academic skills, first at the Chemistry Department at the Arizona State University, Tempe in the '70's and later at Northeastern University's Barnett Institute with Barry Karger in 1985. Dr. Terabe has served as a Research Associate and later as an Associate Professor with the Engineering Faculty at Kyoto University. In 1990, he became a full professor when he joined the Faculty of Science at the Himeji Institute of Technology, Hyogo, Japan. While there, he also served as Dean and Professor of the Graduate School. In 2004, he became Professor in the Graduate School of Material Science at the University of Hyogo. Currently, he serves as a Research Supervisor on Precursory Research Embryonic Science and Technology, Japan Science and Technology Agency and as a professor in the Graduate School of Engineering, Kyoto University. He has fostered many young researchers in conjunction with his recent activities.

Prof. Terabe has received many honors and awards for his scientific contributions. Among the awards are the Martin Gold Medal from the Chromatographic Society (UK, 1994), Capillary Electrophoresis Award (1995) M.J.E. Golay Award (1999), and ACS Award in Chromatography (2004). Japanese honors include the Japan Society for Analytical Chemistry Award, Science Award of Hyogo Prefecture, and Kodama Award of the Japanese Electrophoresis Society. He has served various positions on many scientific journals including *Analytical Chemistry*, *J. Chromatography A*, *Analytical Sciences (Japan)* as well as on scientific committees including HPCE/MSB, Int'l Symposium on Capillary Chromatography, and chairman of HPLC 2001 (Kyoto). He has published over 250 scientific papers and reviews, 33 books and chapters, and has been a guest editor seven times. Prof. Terabe is well known for his many contributions to capillary electrophoresis and especially for the development of MEKC. His theoretical analysis of electrokinetic chromatography was seminal and he showed the world that neutral analytes could be separated by CE. A 2006 issue of the *J. Chromatography* was

dedicated to him and he was saluted by many of his scientific colleagues.

**Location:**  
ACE Center, 800 Ridge  
Pike, Lafayette Hill, PA  
19444

**Times:**  
Executive Mtg - 5:00 pm  
  
Social "Hour" - 5:45 pm  
Dinner - 6:30 pm  
Presentation - 7:30 pm

**Dinner Choices:** Fabulous buffet includes a wide variety of entrees, salads and desserts to suit any palate!

**For Reservations:** Please call before 4 p.m. **Wednesday, November 21.** Please note that "no-shows" will be billed for the dinner.

**Late reservations:** We still want you to attend, so call now. However, we cannot guarantee your entrée selection for dinner.

**Directions:**  
Below

**Cost of Dinner:**  
\$30 or MC/Visa /AmEx

**NOTE TO STUDENTS:** Full-time students with valid ID may attend dinner meetings at half price. **Faculty members at colleges and universities are urged to bring one or more students to the meeting. If they do, they also can attend at half-price**

**Contact:** We strongly recommend online registration <http://www.cfdv.org/meetings.php> but you can also e-mail [sheree@cfdv.org](mailto:sheree@cfdv.org), or FAX 610-485-9467. For FAX/e-mail, please include your name, employer, work telephone & meal choice. Alternatively, call Ms. Sheree Gold at 610-485-3479 and provide same information.

Below is a current list of the 2007/2008 CFDV Officers. Please contact any officer for information about the Forum, to find out how to participate in the Forum or to find out how to participate in Forum Activities. The CFDV website is <http://www.cfdv.org/>.

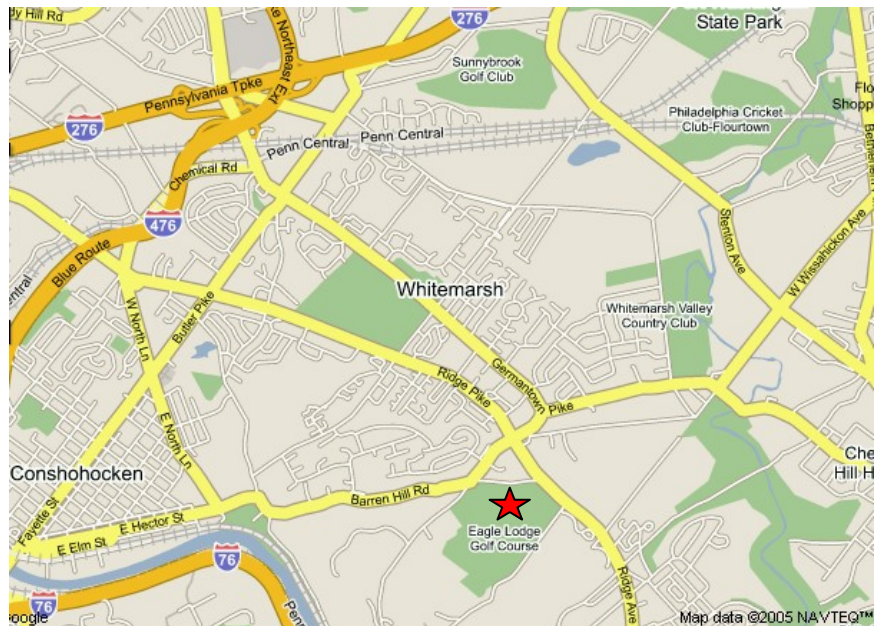
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**Directions to the ACE Center:**

The map shows the immediate area around the ACE Center. The ★ represents exact location. Detailed Driving directions can be found at: <http://www.aceconferencecenter.com/location.html>



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