

NOVEMBER 17, 2004 - Case Studies of Residential Foundation Movements in Southern Houston Area

Speaker: [Mr. Stephen Tien, Ph.D., P.E.](#) Tel. 713-699-4000 of Geotech Engineering and Testing.

PRESENTATION SUMMARY

Dr. Tien, a licensed professional engineer, with BSCE and MSCE degrees from National Taiwan University, Taipei, another MSCE degree from MIT, and a PhD in Civil Engineering from the University of Massachusetts presented his paper entitled, "Case Studies of Residential Foundation Movements in Southern Houston Area". At Geotech Engineering and Testing, Dr. Tien makes forensic studies of distress problems related to foundations, retaining walls, pavements, and sewer leaks.

Dr. Tien presented three case studies of forensic investigations of distressed foundations at the residences. In his presentation, he demonstrated the shortcomings of original site testing and resultant flawed foundation designs and potential solutions. One of the investigations included using GMMIR -Geo-Electric Moisture / Material Imaging Resistivity test to seek areas of greater soil saturation and potential problems resulting from such moisture.

Prior to Dr. Tien's presentation, Dr. Sonny Kim (also of Geotech Testing & Engineering) showed and described us of a Transistor Psychrometer, a device recently purchased from Australia, which allows soil suction tests to be conducted in approximately one hour as opposed to 7 to 10 days with the filter paper method.

To download a copy of the paper that was the basis for Dr. Tien's presentation, [click here](#)

To read a summary of an FPA presentation by Dr. Tien in October 2003, [click here](#)

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