



The non-destructive testing techniques have not changes in many years although we are seeing an increase in there use, why? Data management has been the limiting factor. With more powerful computers, able to handle reams of data in real time on a project site, the sky may be the limit for Non-Destructive Testing. So how do you use these techniques? What works in what situation? Will they solve my problems? We will review all these while work through case studies of GPR, Pulse Velocity, Impact Echo, Parallel Seismic, and many more.

#### Alfred Gardiner – Bio

Mr. Gardiner manages the Concrete Consulting Group for Braun Intertec Corporation. This group of experts manages project related to failure analysis, design and specification for concrete and cement-base products. During Mr. Gardiner's 19 years of experience he has focused this career by interpreting materials evaluation both in the lab and the field. In the field he has conducted 1000's of evaluations using various non-destructive techniques including: impact echo, pulse velocity, rebound hammer, Windsor prober, and infrared imagery. These techniques are often used in conjunction with coring or with each other to provide a global picture of structure.

Mr. Gardiner spent 7 years in the cement and concrete industry as a Technical Service Engineer where he worked with cement, fly ash and slag production to understand product performance. He also worked with clients to design concrete mixtures to meet specification and trouble shoot issues in the field.

Mr. Gardiner has presented at ACI Conventions, NRMCA Technical forums and various location associations. Topics include, non-destructive testing, compatibility of admixtures and cementitious materials, Alkali Aggregate Reaction, Sustainable Concrete, Specifications, issues with Concrete Issues.