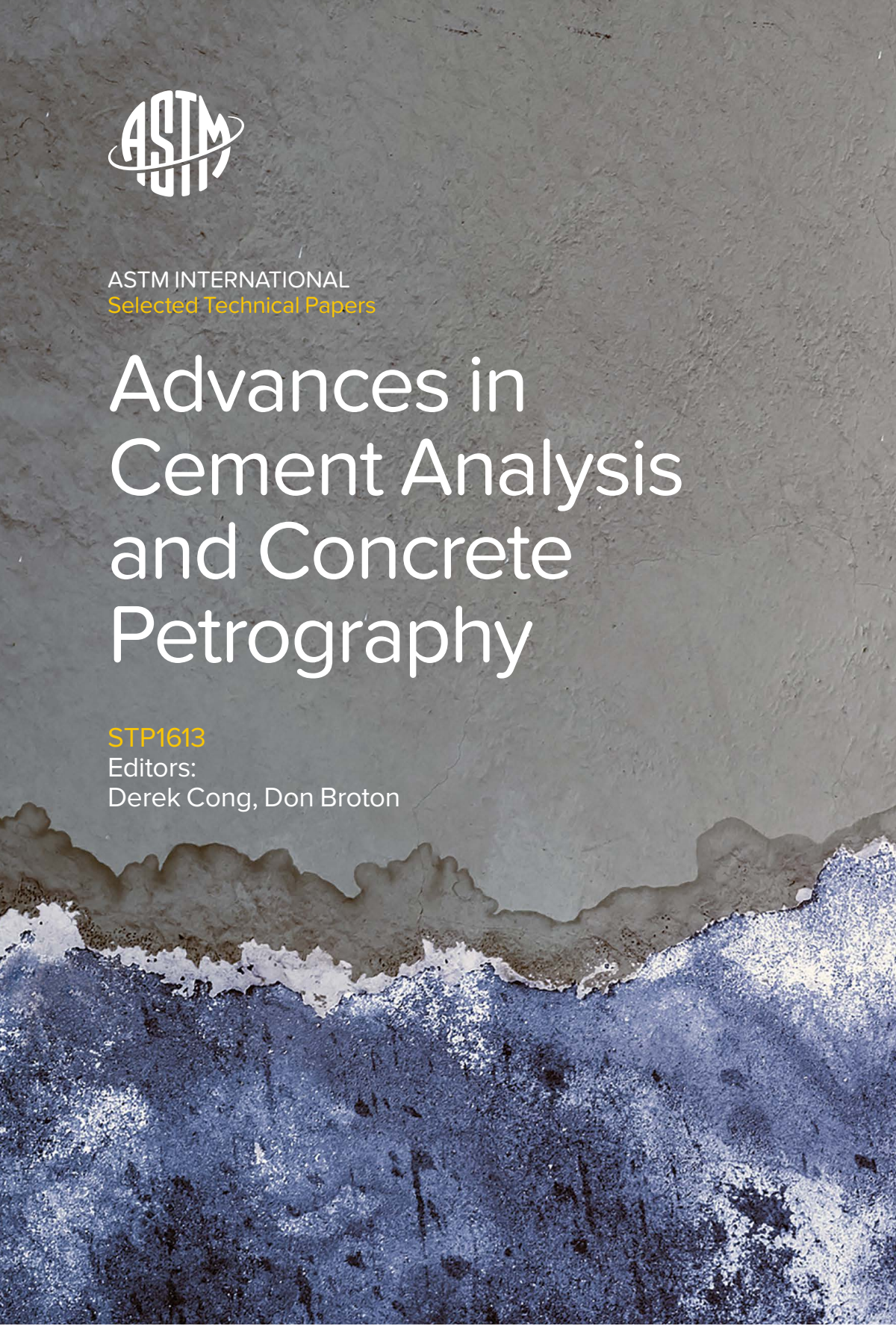

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Advances in Cement Analysis and Concrete Petrography

STP1613
Editors:
Derek Cong, Don Broton

SELECTED TECHNICAL PAPERS
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Foreword

THIS COMPILATION OF Selected Technical Papers, STP1613, *Advances in Cement Analysis and Concrete Petrography*, contains peer-reviewed papers that were presented at a symposium held June 27, 2018, in San Diego, California, USA. The symposium was sponsored by ASTM International Committee C01 on Cement and Subcommittee C01.23 on Compositional Analysis.

Symposium Chairs and STP Editors:

Derek Cong
Wiss, Janney, Elstner Associates, Inc.
Austin, TX, USA

Don Broton
CTL Group
Skokie, IL, USA

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Overview

It has been more than 20 years since ASTM International last held a symposium focusing on cement analysis and/or concrete petrography, when ASTM published the Selected Technical Papers (STP) 1215, *Petrography of Cementitious Materials*. Analytical technology has advanced significantly and many new supplementary cementitious materials have since emerged; as such, it is time to have an overview of the state of the art of development in fields related to cement analysis and concrete petrography.

On June 27, 2018, an ASTM symposium entitled *Advances in Cement Analysis and Concrete Petrography* was held in San Diego, California, USA, to address topics relating to cement analysis and concrete petrography. The symposium was sponsored by ASTM Committee C01 on Cement and Committee C09 on Concrete and Concrete Aggregates.

This STP is a compilation of papers derived from presentations and posters at this international symposium. The papers published in this STP cover a broad range of subjects related to material characterizations in the construction industry. The subjects include, but are not limited to, the following:

- Cement manufacturing process,
- Cement characterization,
- Fly ash analysis,
- Alkali-carbonate reaction,
- Alkali-silica reaction and its assessment using damage rating index,
- Determination of water-to-cementitious binder ratio using fluorescent techniques,
- Quantitative determination of ground calcium carbonate in concrete,
- Evaluation of particulate-based admixtures in hardened concrete, and
- Case studies in cement analysis and concrete petrography.

The editors wish to acknowledge all authors who gave presentations at the symposium and prepared the technical papers published in this STP, as well as the many reviewers who provided important feedbacks and suggestions. We would also like to thank all who attended the symposium and engaged in a useful and lively discussion. Last but not least, we would acknowledge the ASTM Committees

that sponsored the symposium and the ASTM staff who provided indispensable support in the organization of the symposium and publication of this STP.

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