

2019年度第2回砂岩分科会講演会（日本堆積学会と共催）のご案内

2019年度第2回砂岩分科会を下記の要領で開催いたします。

深海斜面の堆積システムのダイナミクスや堆積物として残された地層の理解は、深海成砂岩貯留岩の分布・広がりを理解するうえで非常に重要です。本講演では、Active marginの陸棚斜面における堆積プロセスのダイナミクスや地層のベッドフォームについて、露頭観察と現世の深海堆積システムや水槽実験との比較に基づいた議論をしていただきます。多数のご参加をお待ちしております。

なお、講演会終了後、会場近傍にて懇親会を開催いたします。（会費4000円程度を予定）。各社砂岩分科会委員におかれましては、2020年1月9日（木）までに各社において講演会および懇親会参加希望者を取りまとめの上、小林（Hirofumi.kobayashi@inpex.co.jp）および戸田（kazuma.toda@japex.co.jp）までご連絡をお願いいたします。

記

砂岩分科会(石油技術協会探鉱技術委員会)-日本堆積学会共催

日時：2020年1月17日（金）16:00～17:30

場所：国際石油開発帝石(株) 赤坂Bizタワー36階セミナールーム

講演者：大野 研也（国際石油開発帝石）

演題：DEEPWATER SLOPE CHANNELS ON ACTIVE CONTINENTAL MARGINS,
EOCENE FOREARC BASIN, CALIFORNIA: ARCHITECTURE AND FROUDE
SUPERCRITICAL FLOW CHANNEL FILLS

（講演要旨は次項を参照）

講演言語：日本語を予定（聴講者の希望があれば英語）

*講演会参加には、事前登録が必要です。参加者は事前に各社取りまとめの上、ご連絡ください。

**講演会終了後、会場近傍にて懇親会(18:00-20:00、会費4,000円程度を予定)を開催致します。懇親会の出欠も併せてご連絡ください。

砂岩分科会座長

戸田数馬（石油資源開発(株)／kazuma.toda@japex.co.jp）

小林博文（[国際石油開発帝石\(株\)／hirofumi.kobayashi@inpex.co.jp](mailto:hirofumi.kobayashi@inpex.co.jp)）

以上

Title (演題) : DEEPWATER SLOPE CHANNELS ON ACTIVE CONTINENTAL MARGINS, EOCENE FOREARC BASIN, CALIFORNIA: ARCHITECTURE AND FROUDE SUPERCRITICAL FLOW CHANNEL FILLS

Abstract (講演要旨)

The study focuses on the southern California active margin continental slopes, and tests the hypothesis that deepwater slope architectures on active continental margins differ from passive margins or foreland basins due to both the structurally-controlled steep gradients, and the narrowness of the shelf platform. These controlling factors allow the high-gradient hinterland to connect directly to the steep deepwater slope and are insusceptible to relative sea-level change. This high-gradient hinterland to deepwater slope margin causes the direct and sustained sediment supply from the river to the continental slope. To test this hypothesis, two main study regions were chosen in the Eocene forearc deepwater basins filled with the Great Valley Sequence Belt, which are the La Jolla Group, exposed north of San Diego, and the Juncal Formation in Frazier Park.

Field work in these two regions allowed for a comparison between two types of deepwater slope systems. Both systems are highly channelized, as was hypothesized to be characteristic for active margins. The La Jolla prograding channel complexes demonstrate a highly channelized upper slope environment with considerably lower slope progradation rate, as compared to passive margins or foreland basins. The Juncal slope fan complex demonstrates that the majority of the fan volume is formed by avulsive channel complexes without lobe elements. The channel fills in both systems span from heterolithic fine-grained channel fills, to sandy to heterolithic channel fill, and sandy fills with basal conglomerates. All the channel fills indicate an abundance of bypass signatures. This is especially remarkable for the heterolithic channel fills, which are different from the existing models for fine-grained channel fills that consider channel abandonment or passive infill. Furthermore, all channel fills are interpreted to be dominated by Froude supercritical flow deposits due to pervasive scour-and-fill structures with backsets. This suggests that the Froude supercritical flow may control the observed highly irregular shape and distribution of the sandstones (e.g., mounded shape and mosaic-like facies distribution) in the channel fills. The studied channel complexes provide an outcrop analog for modern sea-floor upslope migrating scour and

fill structures that form crescent-shape bedforms in channels and submarine canyons. This work and the comparison to modern systems and flume experiments suggest that supercritical flow and bypassing turbidity currents are significant processes on active continental margins due to both high sediment supply, and the steep hinterland to continental margin slopes.