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Soumyajit Mukherjee
Editor

Structural Geology
and Tectonics Field
Guidebook—Volume 2

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*Dedicated to (retired) Prof. P.K. Saraswati,
Department of Earth Sciences, IIT Bombay)*

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Preface

The purpose of this book is exactly same as that of the prequel volume 1 on the same broad topic (Mukherjee 2022)—this book presents few well-known and several rather unknown transects where exciting structures exist, and field programs can be established.

Cite individual chapters in the following format:

Mukherjee S 2022. Introduction to Structural Geology and Tectonics Field Guidebook—Volume 2. In: Mukherjee S. (Ed) Structural Geology and Tectonics Field Guidebook—Volume 2. Springer Nature Switzerland AG. Cham. pp. xi–xiv. ISBN: 978-3-031-19575-4.

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Introduction

The book is a sequel of the previous edited volume 1 on the same broad subject (Mukherjee 2022). Indian terrain has been a matter of national and international attention to geoscientists because of its pure and applied geological research issues (e.g., Mukherjee 2015, 2020; Mukherjee et al., 2015, 2017). This edited book consists of **14** chapters contributed by **45** authors and co-authors from **6** countries. Geoheritage in India has been reviewed by Chandrasekharam (2007) and Kaur (2022).

Porcher et al. (2022; Chapter “Field Guide for a Complete Cross-Section of the Central Andes Along Main Roads”) present a field guide for a seven-day field-work in central Andes. The purpose of this chapter is to familiarize the reader with the structural, morphotectonic, stratigraphic, volcanic and sedimentary features of the orogen. **Pamplona et al. (2022; Chapter “Structures Associated with the Dynamics of Granitic Rock Emplacement (NW Portugal)”)** provide structural examples through photographs how granite rock emplacement in NW Portugal has been its cause. An enclave disruption mechanism within the granite body is proposed in this work. **Novakova (2022; Chapter “Tectonically Significant Fault Zones in Central Europe (Germany, Czech Republic and Poland) and Their Surface and Subsurface Outcrops: Franconian Line, Hronov-Porici Fault, Sudetic Marginal Fault and Lusatian Fault”)** describes the four major fault zones with NW trend in Central Europe. Understanding these faults will be important since they are active. **Singh et al. (2022; Chapter “Geological Field Observations Along the Pandoh Syncline: The Mandi-Kataula-Bajura Section of Himachal Pradesh, NW-India”)** discuss lithologies and structures of the Mandi-Kataula-Bajura section of the Indian Himachal Lesser Himalaya. These workers also add up new metamorphic information into their study. **Ganguli et al. (2022; Chapter “The Rock Outcrops at Raghunathi, SE of Ghatsila (Jharkhand, India): a Spectacular Preservation of Polyphase Folding”)** present Paleo-Proterozoic lithologies and structures from the Indian state Jharkhand. The structures mainly include superposed folding. **Samanta and Kundu (2022; Chapter “Spectacular Soft-Sediment Deformation Structures in Sedimentary Rock Outcrops of Damodar Valley Basin, West Bengal, India: A Field Guide”)** describe primary structures in sedimentary rocks including syn-sedimentary deformation structures from the Damodar

Valley in West Bengal (India). **Lohani et al. (2022; Chapter “Structural Geological Field Guide: Bhuj Area (Gujarat, India)”)** present in detail structures associated with the active segment of Katrol Hill Range Fault Zone, Kutch area, Gujarat, India. **Sinha et al. (2022; Chapter “Structural and Sedimentary Field Studies in Angul District, Odisha, India”)** describe a geological fieldwork with sedimentology and structural geology as focus from the Angul District, Odisha, India. The rock types in this region are of diverse ages—Archean-Proterozoic metamorphics and migmatites, Gondwana Supergroup of sedimentary succession and the overlying Quaternary deposits. **Puniya et al. (2022a; Chapter “New Structural Geological Input from the Barmer Basin, Rajasthan (India)”)** provide new field-based structural geologic data from the eastern, western and northern parts of the Barmer basin in terms of brittle faults, brittle shear zones and dykes. A N-S compression was decoded, which could be the result of India–Eurasia collision. In another work, **Puniya et al. (2022b; Chapter “Structural Geology and Stability Issue of the Giral Lignite Mine, Rajasthan, India”)** present structural geology from the Giral Lignite Mine, Barmer area. Two normal faults were documented and were correlated with Barmer basin’s rifting. **Puniya et al. (2022c; Chapter “Relationship Between Deformation Structures and Rock Mass Rating: A Case Study of Underground Power House, Andhra Pradesh—India”)** discuss structural geological studies relevant to an underground powerhouse construction in West and East Godavari Districts, Andhra Pradesh, India. The authors documented four sets of joints from the study area. **Bhu et al. (2022; Chapter “Microstructures Mimic Meso-Scale Structures”)** discuss structures from a deformed Precambrian metasedimentary terrane of the Aravalli craton, India. Through mesoscale and microscale studies, the authors prove the established fact that structures can be fractal in nature. **Ansari (2022; Chapter “Review on Role of Multi-Constellation Global Navigation Satellite System-Reflectometry (GNSS-R) for Real-Time Sea-Level Measurements”)** reviews how multi-constellation Global Navigation Satellite System Reflectometry can aid a field geologist in coastal tectonics studies. **Haldar et al. (2022; Chapter “Architecture and Structures of Kiradu Temple (Barmer Region, Rajasthan, India)”)** discuss in great detail the architectures of the less known Kiradu temple in the Barmer area, India.

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