Special Issue

Contribution of Gas Flaring Emission to Ambient Air Pollution

Message from the Guest Editors

Gas flaring is the burning of associated natural gas in open flame in the atmosphere using specialized burners. It has been established that depending on the fuel composition, meteorology and flare and flame geometry, the process emits myriad air pollutants. In 2019, over 150 billion cubic meters of associated natural gas were flared globally. The number of active flares identified globally, height of the flares, temperature and resulting buoyancy of emissions, and the amount of natural gas flared globally are an indication that pollutants emitted from gas flaring could be more significant than previously. Both short- and long-term observations of the emissions from the process are necessary to assess and quantify its contribution to air pollution whether on local or regional scales. This Special Issue aims to present papers of the gas flaring process, including but not limited to: i. In-depth analysis of the gas flaring process; ii. Ground-based measurements of emissions—gaseous and particulates—using diverse techniques; iii. Observations from satellite retrievals and remote sensing; iv. Modeling of the flaring process and/or emissions.

Guest Editors

Prof. Dr. Dantong Liu

Department of Atmospheric Sciences, School of Earth Sciences, Zhejiang University, Hangzhou 310027, China

Dr. Olusegun Gabriel Fawole

1. Department of Environmental Sciences, Stockholm University, Frescativägen, 114 19 Stockholm, Sweden
2. Department of Physics and Engineering Physics, Obafemi Awolowo University, Ile-Ife, Osun 220282, Nigeria

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Atmosphere
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
atmosphere@mdpi.com

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Message from the Editor-in-Chief

Continued developments in instrumentation and modeling have driven atmospheric science to become increasingly more complex with a deeper understanding of concepts, mechanisms, and interactions. This is the field that innovation built and it has led to a better appreciation for the complexity with atmosphere. Human life is intertwined in this complexity as we strive to better understand our atmosphere. Climate change is constantly stretching the limits of our thinking and forcing new ideas and concepts to be played out. Welcome to the Anthropocene!

Editor-in-Chief

Dr. Daniele Contini
Institute of Atmospheric Sciences and Climate (ISAC), National Research Council (CNR), Str. Prv. Lecce-Monteroni km 1.2, 73100 Lecce, Italy

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