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Vision under Adverse Weather Conditions

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Message from the Guest Editors

Artificial vision systems, whether active or passive, are increasingly used for applications ranging from intelligent visual surveillance to automated driving. Several approaches can be used to limit these disturbances at both hardware and software levels. For example, sensor design could include the choice of wavelengths at which the impacts of adverse weather conditions on light transmission are minimized. It is also well known that contrast enhancement algorithms can be used at a software level or directly by hardware improvements. Knowledge of the effects of weather conditions on the performance of different types of sensors is therefore essential to improve sensors' capabilities and more generally those of artificial vision systems. In this Special Issue, original works on methods for limiting meteorological disturbances in artificial vision and new knowledge on the modelling of adverse weather conditions' effects on light transmission are welcomed. Studies in all types of weather conditions and even in more complex situations such as in the presence of smoke or dust clouds exerting similar visual effects are of interest.

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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!

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