DESCRIPTION

PSEP aims to be the principal international journal for publication of high quality, original papers in the branches of engineering concerned with the safety of industrial processes and the protection of the environment.

Papers that deal with new developments in safety or environmental aspects, demonstrating how research results can be used in process engineering design and practice, are particularly encouraged. Experimental or theoretical research work bringing new perspectives to established principles, highlighting unsolved problems or indicating directions for future research will also be considered. The journal is especially interested in contributions that extend the boundaries of traditional engineering as well as in multidisciplinary papers.

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Risk Assessment and Reliability Engineering
- Risk assessment, risk management, consequence analysis, and uncertainty quantification.
- Supply chain risk management.
- Cyber and physical security vulnerability assessment.
- Risk assessment of hydrogen-based technologies.
- Human reliability analysis (HRA) and human-machine interface (HMI).
- Reliability predictions of integrated systems and high-temperature power electronics.
• Integrity management and reliability, availability and maintainability (RAM).

**Technical Safety and Loss Prevention**
• Fire and gas detection.
• Firewater systems.
• Functional safety and safety integrity levels (SIL)
• Layer of protection analysis (LOPA)
• Bowtie analysis.
• Emergency response
• HAZOP and other hazard/risk identification techniques.

**Modelling**
• Modelling liquid, gaseous, and two-phase releases and dispersion.
• Consequence modelling, including: fire, explosion, toxic, eco-toxic effects and projectile impacts.
• Methods, including computational fluid dynamics (CFD).
• Accident investigation and modelling.

**Chemical Toxicity and Exposure Assessment**
• Toxic releases and exposure assessment.
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• Pipeline leak detection and measurement and corrosion assessment.
• Carbon capture and storage (CCS) and CO2 transport.

**Fire and Explosion**
• Fire, combustion, and explosion phenomena.
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• Hazard identification
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• Retrofitting inherently safer solutions and upgrading existing plant for improved safety.

**Nuclear Safety**
• Waste disposal.
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**Reaction Hazards**
• Chemical thermal stability and thermal reaction hazards.
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• Compatibility/reactivity of chemicals involved in a chemical process.

**Industrial Hazards and Safety Cases**
• Major accident hazards
• ALARP and cost-benefit analysis.
• Industrial safety cases.

**Incident investigations and case histories**
• Case histories of incidents and lessons learned integration into design and operations.
• Technical analysis of incidents.
• Computational modelling to simulate actual incidents
• Use of incidents in training and improvement of safety performance
• Incident investigation methodologies
• Incident databases and their applications.

**Air pollution prevention and treatment**
• Methods and technologies for prevention and treatment of air pollution
• Air dispersion modelling
• Prediction and mitigation of air pollution incidents
• Health impacts from air pollution

**Resource and waste management**
• Recovery and recycling of materials and products
• Energy from waste and alternative resources
• Waste minimisation
• Waste treatment technologies
• Waste management: systems and processes for energy and material recovery and waste treatment; disposal
• Landfill and waste repository design, operation and management
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