

IEEE Communications Society  
**Publications Contents Digest**  
**October/2021**





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- EIC, **IEEE Internet of Things Magazine** — Maurice Khabbaz
- EIC, **China Communications** – Jianhua Lu

### Journal Editors

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- EIC, **IEEE Journal on Selected Areas In Communications (J-SAC)** –Raouf Boutaba
- EIC, **IEEE Communications Letters** – Marco Di Renzo
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**IEEE Communications Society**  
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HTML

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HTML

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HTML

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Alouini

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