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## DESCRIPTION

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Computing infrastructures and systems are rapidly developing and so are novel ways to map, control and execute scientific applications which become more and more complex and collaborative. Computational and storage capabilities, databases, sensors, and people need true collaborative tools. Over the last years there has been a real explosion of new theory and technological progress supporting a better understanding of these wide-area, fully distributed sensing and computing systems. Big Data in all its guises require novel methods and infrastructures to register, analyze and distill meaning.

FGCS aims to lead the way in advances in distributed systems, collaborative environments, high performance and high performance computing, Big Data on such infrastructures as grids, clouds and the Internet of Things (IoT).

The Aims and Scope of *FGCS* cover new developments in:

[1] Applications and application support: Novel applications for novel e-infrastructures  
Complex workflow applications  
Big Data registration, processing and analyses  
Problem solving environments and virtual laboratories  
Semantic and knowledge based systems  
Collaborative infrastructures and virtual organizations  
Methods for high performance and high throughput computing  
Urgent computing  
Scientific, industrial, social and educational implications  
Education

[2] Methods and tools: Tools for infrastructure development and monitoring  
Distributed dynamic resource management and scheduling  
Information management  
Protocols and emerging standards  
Methods and tools for internet computing  
Security aspects

[3] Theory: Process specification; Program and algorithm design  
Theoretical aspects of large scale communication and computation  
Scaling and performance theory  
Protocols and their verification

## AUDIENCE

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Computer Scientists, Managers and Policy Makers in Information Technology.

## IMPACT FACTOR

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## ABSTRACTING AND INDEXING

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Current Contents/CompuMath  
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Cambridge Scientific Abstracts  
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## GUIDE FOR AUTHORS

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The Grid is a rapidly developing computing structure that allows components of our information technology infrastructure, computational capabilities, databases, sensors, and people to be shared flexibly as true collaborative tools. Over the last 3 years there has been a real explosion of new theory and technological progress supporting a better understanding of these wide-area, fully distributed computing systems. After the advances made in distributed system design, collaborative environments, high performance computing and high throughput computing, the Grid is the logical next step.

The new Aims and Scope of FGCS will cover new developments in:

[1] *Grid Applications and application support*: Novel applications eScience and eBusiness applications Problem solving environments and virtual laboratories Grid economy Semantic and knowledge based grids Collaborative Grids and virtual organizations High Performance and high throughput computing on grids Complex application workflows Scientific, industrial and social implications Grids in education

[2] *Grid methods and middleware*: Tools for grid development: monitoring and scheduling Distributed dynamic resource management Grid- and web-services Information management Protocols and emerging standards Peer to peer and internet computing Pervasive computing Grid Security

[3] *Grid Theory*: Process specification; program and algorithm design Theoretical aspects of wide area communication and computation Scaling and performance theory Protocol verification

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#### *Examples:*

Reference to a journal publication:

[1] J. van der Geer, J.A.J. Hanraads, R.A. Lupton, The art of writing a scientific article, *J. Sci. Commun.* 163 (2010) 51–59. <https://doi.org/10.1016/j.Sc.2010.00372>.

Reference to a journal publication with an article number:

[2] Van der Geer, J., Hanraads, J.A.J., Lupton, R.A., 2018. The art of writing a scientific article. *Heliyon.* 19, e00205. <https://doi.org/10.1016/j.heliyon.2018.e00205>.

Reference to a book:

[3] W. Strunk Jr., E.B. White, *The Elements of Style*, fourth ed., Longman, New York, 2000.

Reference to a chapter in an edited book:

[4] G.R. Mettam, L.B. Adams, How to prepare an electronic version of your article, in: B.S. Jones, R.Z. Smith (Eds.), *Introduction to the Electronic Age*, E-Publishing Inc., New York, 2009, pp. 281–304.

Reference to a website:

[5] Cancer Research UK, Cancer statistics reports for the UK. <http://www.cancerresearchuk.org/aboutcancer/statistics/cancerstatsreport/>, 2003 (accessed 13 March 2003).

Reference to a dataset:

[dataset] [6] M. Oguro, S. Imahiro, S. Saito, T. Nakashizuka, Mortality data for Japanese oak wilt disease and surrounding forest compositions, *Mendeley Data*, v1, 2015. <https://doi.org/10.17632/xwj98nb39r.1>.

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