



Mini-symposium: Quaternion & Clifford Fourier transforms & wavelets 3 (QCFTW3)

Dear Colleagues,

On behalf of the Scientific Committee of ICCA11, it is a great pleasure for us to invite you to the historic city of Ghent (Belgium) to present some of your latest results.

We are organizing a 3rd session on Quaternion and Clifford Fourier transforms and wavelets (QCFTW3) at Ghent University, Ghent, 7-11 Aug. 2017 as part of

11th International Conference on Clifford Algebras and their Applications 2017 (ICCA11)

<http://www.icca11.ugent.be/>

■ **Description.** Quaternion and Clifford Fourier and Wavelet Transforms as refinement and generalization of the 1D complex Fourier and wavelet theory play an increasing role in different areas of mathematics, physics, computer science, engineering, and beyond. We want to discuss the state of the art in mathematics and application of these hypercomplex Fourier and wavelet transforms and give ideas for new developments.

■ **Idea.** We aim to bring together experts working in theoretical research and applied sciences active in fields related to quaternion and Clifford Fourier and wavelet transforms and extensions to other Clifford integral transforms (not restricted to the topics below). We intend to cover the discussion of these transforms and the presentation of new methods that develop and apply them.

■ **History.** Previous sessions have been organized at the conferences ICCA9 in Weimar (2011) and ICCA10 in Tartu (2014). They brought together contributions on this topic and related Clifford integral transforms. Proceedings appeared as a book with Springer: *Quaternion and Clifford Fourier Transforms and Wavelets*, TIM 27, Hitzer, E., Sangwine, S. J. (Eds.), 2013,

and a special issue of AACA (due 2016).

■ **Topics.** We invite scientists and engineers working with discrete and continuous quaternion and Clifford Fourier and wavelet transforms in the following fields:

- *pure and applied Clifford analysis, geometric calculus, hypercomplex analysis, harmonic analysis, or quaternion analysis*
- *solution of partial differential equations, boundary and initial value problems*
- *approximation theory, sampling, and numerical simulations*
- *wavelets with application in physics, visualization, signal analysis, (color) image processing, feature extraction, medical imaging, applications in numerical analysis*
- *practical applications in engineering sciences in general, in particular in electrical engineering, robotics, classical mechanics, navigation, guidance and control systems, geographic information systems, seismology, and data registration*

■ **Proceedings.** Proceedings of ICCA11, including our mini-symposium, will appear as a special issue of the journal *Adv. of Appl. Cliff. Algs.*, Springer-Birkhäuser. Manuscripts (max. 15 pages) will be subject to the usual refereeing process, and are due Sunday, 03 December 2017.

■ **Registration.** When you register online for ICCA11, please indicate that your contribution is for this mini-symposium (QCFTW3).

■ **Abstract Submission:** Please submit the abstract you will present (at most 1 page) online by **04 June 2017:**

<http://www.icca11.ugent.be/index.php?page=registrationabstracts>

Please feel free to contact us! With kind regards,

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