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EDITORIAL

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The trend previously reported on the considerable increase in the number of manuscript submissions to JRTIP has continued over the second half of 2012 and it is expected that by the end of the year there would be a percentage increase of nearly 300 % in the number of submissions over the previous year. To accommodate for this huge increase, we negotiated with and received the approval from Springer to have 80 pages per print issue starting in 2013. We are starting the higher page count with this issue and expect that this higher page count would alleviate some of the constraints associated with the number of accepted papers that can be included in a print issue. Of course, as always the online versions of accepted manuscripts can be viewed and downloaded soon after acceptance.

To further strengthen the review process in light of the high volume of manuscripts that are being received by JRTIP, a reviewer reward program has been enacted by Springer to give reviewers incentives towards providing quality reviews in a timely manner. The details of this program can be accessed through the journal website: http://www.springer.com/computer/image+processing/journal/11554?detailsPage=press. Note that the journal website http://www.springer.com/11554 lists the most downloaded papers published in JRTIP which can be mostly downloaded for free.

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In addition to the considerable increase in the number of submissions to JRTIP in its seventh year of existence, five calls for papers that are currently open for special issues is yet another indication of the great interest that JRTIP is addressing by its real-time focus. Upon the conclusion of their special issues, the Guest Editors will be invited to join the editorial board as Associate Editors to further strengthen the editorial board in its coverage of various application domains of real-time image processing.

It is worth mentioning that the next meeting of the editorial board will take place in February 2013 in San Francisco during the *SPIE Conference on Real-Time Image and Video Processing* as part of the *SPIE Electronic Imaging Symposium*. Various issues related to improving the operation of JRTIP is planned to be discussed during this gathering. As always, we thank all of the Associate Editors, Guest Editors, and reviewers for their ongoing efforts and contributions to JRTIP. We always welcome colleagues working in the area of real-time image processing to become involved in this journal as reviewers, guest editors, or associate editors. At the end, we wish to express our gratitude to the Associate Editors Jorge Santos and Leonid Yaroslavsky who have decided to step down from the Editorial Board at the end of this year. We appreciate their contributions to JRTIP and wish them all the best.

This regular issue includes six papers three of which cover the real-time aspects of H.264/AVC coding. The other three papers are on the fast computation of Fourier-Mellin moments, a real-time approach in stereo video processing, and a real-time implementation of a sports application.

The first paper by Xu et al. deals with a data hiding algorithm with large data payload for H.264/AVC. The prediction mode is modulated by replacing the best mode

with the substitute mode with the least Lagrangian cost among those having different parity with the best mode. Hidden information is extracted directly from the encoded stream without resorting to the original video while allowing little increase in bit rate and almost no quality degradation.

The second paper by Werda et al. discusses the H.264/AVC Baseline Decoder. It covers the implementation and optimization of the video decoder level on two TMS320C6416 for video conference applications which demand real-time processing. The parallelism across algorithm execution and data transfers are exploited using an enhanced direct memory access (EDMA) engine based on the DSP architecture achieving up to 70 % speed-up.

The next paper by Shimu et al. presents a feasibility study to transmit HD compressed video using H.264/AVC coding in a wireless mode over the ultra-wideband (UWB) communication channel between 1.5 and 20 Mbps. The experiments presented investigate key H.264/AVC encoder parameters such as in-loop deblocking filter, group of pictures, and quantization parameter to find their optimum settings for different bandwidth requirements and acceptable video quality.

The fourth paper deals with the fast computation of Orthogonal Fourier-Mellin Moments (OFMM) with improved numerical stability, where Walia et al. present how overflow and underflow situations can be avoided when neither factorial nor power terms are involved in computing this fast recursive method of the radial polynoms that occur in the kernel functions of the OFMMs.

The fifth paper by Mahotra et al. presents an algorithm for hand-pair gesture recognition using video stereo images. To achieve a real-time throughput, the use of disparity is limited to two regions-of-interest representing a hand-pair as identified by a segmentation component. The results present more than 90 % recognition rates under realistic lighting and background conditions while using inexpensive commercial stereo webcams.

The final paper by Miguel et al. proposes a multi camera application extracting features based on color patterns from high resolution images via a graphic processing unit (GPU). Football players in a match scene composed of diverse and complex color patterns are segmented using a Gaussian Mixture Model (GMM). Time consuming tasks are implemented on the NVIDIA's CUDA platform speeding up the entire process up to a factor of 11 compared to a highly optimized C++ version on a central processing unit (CPU) leading to a real-time performance up to 64 frames per second with scalability depending on the number of available cores on the GPU.