**What’s hot in strain analysis**

It is a pleasure to announce the winners of the 2015 CEGB-SAGE Best Paper Award: Isik Kerim, Maria Beatriz Silva, Tony Atkins, AE Tekkaya and Paulo Martins for their paper: A new test for determining in-plane stress in mode II [1]. The winners receive a certificate and a small monetary prize. The award is chosen by the editorial board who nominate papers for the award and then vote for their favourite from amongst the ones receiving the most nominations. For the past ten years, as editor, I have initiated but not participated in the nomination or voting process. So, this year it has been interesting as a board member to participate in the processes; particularly as it involved looking back at the forty-six papers that we have published during our golden anniversary.

A quick classification of the papers by topic reveals that approximately a fifth involved residual stresses, slightly less than a fifth involved joining, mainly welding, and about an eighth were about forming. In other words at least half of the papers published last year in the journal related to stresses and strains associated with manufacturing processes. Perhaps this implies that, as a community, we are reasonably confident about our ability to perform strain analyses for engineering design but rather less so about our competence to predict or measure the strains that occur when we make something for real. Many of these challenges were united in single studies by Casavola et al who used thermography and x-ray diffraction to generate measurement data to validate a computational model of residual stresses induced by friction stir welding [2]; and by Omar et al who also combined predictions and measurements in studying the formability of welded tubes [3]. These component scale studies were counterbalanced by papers on micron scale measurement of residual stresses [4], including a comprehensive review by Winiarski and Withers [5]. These novel techniques at the micron scale appear to offer the potential to enhance our understanding of residual stresses by providing precision, high resolution data and hence increasing our competence and confidence in predicting the stresses induced during manufacturing processes. Of course, new materials and ever-more ingenious, ambitious designs will challenge these competencies and ensure rich new avenues for researchers to pursue.

I would like to close by returning to the topic of awards by highlighting that papers from the journal have won two consecutive George Stephenson Gold Medals from the Institution of Mechanical Engineers. Congratulations to George Lampeas and Vasilis Pasialis who won the 2013 medal for their paper nonlinear dynamic simulations [6] and to Samual McDonald and Philip Withers who won the 2015 medal for their paper on combining X-ray microtomography and digital volume correlation [7]. Their medals provide confirmatory evidence of the high-quality of the papers published in the Journal.

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**References**

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