I haven't presented any publication statistics for the journal for quite some time, so I decided to bring you up to date just a bit. The figures shown below are actual figures for each of the categories listed for the three-year period 1986-1988.

<table>
<thead>
<tr>
<th>Category</th>
<th>1986</th>
<th>1987</th>
<th>1988</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of papers published on special-issue topics</td>
<td>95</td>
<td>119</td>
<td>74</td>
</tr>
<tr>
<td>No. of contributed papers published</td>
<td>100</td>
<td>60</td>
<td>100</td>
</tr>
<tr>
<td>Total No. of papers published</td>
<td>195</td>
<td>179</td>
<td>174</td>
</tr>
<tr>
<td>No. of technical pages published</td>
<td>1319</td>
<td>1242</td>
<td>1085</td>
</tr>
<tr>
<td>Average No. of pages per technical paper</td>
<td>6.8</td>
<td>7.0</td>
<td>6.2</td>
</tr>
<tr>
<td>Percentage of technical pages paid by authors</td>
<td>71%</td>
<td>81%</td>
<td>66%</td>
</tr>
</tbody>
</table>

I'm not certain that any conclusions can or should be drawn from these statistically insignificant data, but it is interesting nevertheless to note the fluctuations that have occurred. One ingredient that is not reflected in these numbers is quality, and it is my impression that the quality of the papers submitted for publication in Optical Engineering has generally improved with time. This impression is based on my own evaluation of the papers, as well as the comments passed on to me by many readers, and this pleases me very much. My congratulations to all of the authors and guest editors whose hard work and high standards have helped improve the journal.
May 1990

Image Restoration and Reconstruction

Guest Editors

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Image restoration refers to the problem of undoing the degradations introduced to a recorded image. Degradations may be caused by random noise (e.g., film or sensor noise) and by blur (random or deterministic), such as the blur due to relative motion between the subject and the imaging system and/or due to out-of-focus lenses. Image restoration is the problem of generating an image from data (possibly noisy and/or incomplete) that are not in image format to begin with, e.g., image reconstruction from projections.

In general, there is no hard boundary between these two problems. In fact, they share common mathematical grounds: both are inverse and usually ill-posed problems. Both restoration and reconstruction algorithms use a priori information about the degradations and the actual image to obtain a regularized solution to the problem. Therefore, estimation of unknown degradations and image parameters are of interest. The blur may be space invariant or space variant. On the other hand, noise may be signal dependent or signal independent. Adaptive image restoration algorithms take into account the space variance of the blur, image parameters, and the signal dependency of the noise. Adaptive, nonlinear algorithms may be motivated by the desire to suppress restoration artifacts caused by linear algorithms.

The field of image restoration and reconstruction is constantly growing. It is of great importance in applications ranging from space research, forensic science, and consumer/commercial photography to medicine. For this special issue, authors are encouraged to submit manuscripts on any of the following topics:

- theory of the regularization of inverse, ill-posed problems as applied to image restoration and reconstruction,
- linear and nonlinear image restoration algorithms,
- adaptive filtering for image restoration with suppression/removal of restoration artifacts,
- restoration of space-variant degradations,
- identification of unknown degradations and image parameters,
- restoration of multispectral images,
- tomographic image reconstruction (MR, x-ray, diffraction tomography, PET, SPECT, etc.),
- image reconstruction from incomplete data, and
- applications.

Prospective authors should submit four copies of the manuscript to one of the guest editors before Oct. 15, 1989.

July 1990

Signal and Image Processing Systems Performance Evaluations

Guest Editors

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The July 1990 special issue of Optical Engineering will be devoted to the subject of signal and image processing systems performance evaluations. Topics to be covered include

- signal and image metrics,
- evaluation methods,
- experimental design,
- performance measures and system decomposition,
- phenomenological modeling of targets and background,
- data collection,
- data characterization,
- signal and image synthesis for evaluation,
- sensitivity analysis,
- comparative analysis of different systems,
- advanced concepts,
- artificial intelligence based techniques,
- automated diagnostics, and
- neural network based systems evaluations.

Within this range of topics the intent is to provide a broad overview of the current state of the art and the trends for future technology developments. Application areas include research, defense, and industry.

Authors are encouraged to submit manuscripts for consideration on any of the above or related topics to the Guest Editors by Nov. 15, 1989.