



# Guiding principles for video presentations of IJCARS articles and long abstracts

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## Author–machine–audience communication (AMAC)

This editorial provides some initial concepts on how the content of IJCARS publications, specifically those that have been accepted for the CARS Congress and CARS Academy, may be reflected in high-quality video presentations with a focus on Facts, Figures and Thoughts (FFT).

The overarching purpose of the scholarly publication and communication process of IJCARS in the context of CARS (Computer Assisted Radiology and Surgery) as a scientific/medical domain could be defined as:

“To enable the exchange/communication of R&D ideas by means of verbal and written statements made by responsible *authors*, scrutinized by informed reviewers and utilized by an open-minded *audience*, with the aim to stimulate complimentary thoughts and actions within the given domain of discourse by all parties involved in the scientific/medical communication process”.

With this definition in mind, author–machine–audience communication by means of video presentations is in the process of becoming part of a new communication culture for CARS Congresses and the CARS Academy. It implies a

different type of interactive navigation through knowledge in the domain of scholarly communication by all parties involved, i.e. authors, readers, audiences and discussants.

If a machine is utilized as a mediator in this process, some general communication guidelines/axioms from the discipline of Computer Graphics and Man–Machine–Communication may assist when designing and using such systems, i.e. enabling technologies should support the communication categories.

*“to inform, to persuade and to entertain”.*

Original articles, systematic reviews, short communications and long abstracts submitted for AMAC video presentation to the CARS Congress and Academy should, therefore, take account of the opportunities new media of communication can offer as regards to be informative, persuasive and entertaining. Given these communication categories also as visual enablers for navigating through scholarly knowledge, they should be self-contained and follow a well thought out and clear script/storyline, suitably structured along the traditional publication sections of *Purpose, Methods, Results and Conclusion*.

Because video presentations serve interested parties often as the first encounter for an article/abstract indexed in an electronic database, they should raise interest for the content by as many members of this audience as possible, not least to also download the article/abstract or contact the authors directly for further enquiry (Q&A). Assuming that the audience expects some in-person communication features [1] also being present in a video, this represents an additional challenge in the scripting of a video presentation.

Given the total length of the AMAC video presentation to be between 4–8 min [2], each publication section in the presentation should ideally have a proportional length of between 1–2 min. As a guiding principle, the narrative/spoken words of the visual/graphic presentations contained in the AMAC video should follow a well thought out and clear script/storyline. In addition, authors are requested to

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ascertain that the video presentation is accurate, does not contain unlawful material and is not being used as an advertising instrument. Authors who are in the narrative position should be clearly identifiable in the video, for example with appropriate name inserts in the video.

### Communication categories “to inform, to persuade and to entertain”

To inform, to persuade and to entertain, authors of AMAC video presentations, therefore, need to ensure that the video:

1. Adequately summarizes and accurately reflects the content of the original article/abstract. This allows the audience a quick orientation (focus on quality, not quantity) on what the main message(s) the article/abstract consists of, and what further detailed information can be expected from reading the original publication and other links to more detailed sources. Information given in the *Methods* and *Results* parts of the video, in particular, should be presented accordingly,
2. Convincingly persuades the receiving audience about the value of the information content to remember and/or act in accordance with what has been presented. This requires careful weighing the impact of the given information and claims with respect to possible truth values. Thoughts and ideas presented in the *Purpose* and *Conclusion* parts of the video, in particular, should be presented accordingly,
3. Rises and maintains the attention of the audience by presenting the information and persuasion component of the presentation in an entertaining manner. This may require to abandon a one-to-one mapping of the classical PowerPoint presentations given by a single author (i.e. unlearning the old) in favor of giving multiple co-authors (preferably from different disciplines) presentation opportunity in the video. In principle, this applies to the *Purpose*, *Methods*, *Results* as well as *Conclusion* parts of the video presentation.

### Examples of visual/graphic presentations for IJCARS article sections

In the following, some selected examples of visual/graphic presentations for the Purpose, Methods, Results and Conclusions sections in the IJCARS publication may serve as an entry point for designing AMAC videos and being referred to in the video curation process.

### Purpose section

Should provide the context or background and rationale for the study or project work carried out. In particular, what is the novel contribution of the work reported with respect to the state-of-the-art. In the following are some examples of visual/graphic cues with respect.

- **to inform:** *need analysis, position in (clinical) workflow, impact on health care/economy*
- **to persuade:** *problem visuals including use of mental imagery, journal headlines, “need” graphics*
- **to entertain:** *interview with potential users, scribing of bullet points, analogues, episodes, stories, strategic coloring*

### Methods section

Should state the study’s basic procedures (technical and/or clinical settings, algorithms and data structures, analytical and statistical methods, measurements). In the following are some examples of visual/graphic cues with respect.

- **to inform:** *highlighting of uniqueness, visual models, point of view models*
- **to persuade:** *originality but simplicity of method, visual cues*
- **to entertain:** *back to the roots, history of related methods*

### Results section

Should outline the main findings by giving some key observations on quantitative and/or qualitative results and, if applicable, their statistical and clinical significance. Some examples of visual/graphic cues with respect.

- **to inform:** *visualize “now” and before*
- **to persuade:** *single viewpoint visualization*
- **to entertain:** *contrasting results, controversial results*

### Conclusion section

Should emphasize on the original and important aspects of the study, observations or project results, realistically interpret findings and impact as well as deliberate on important limitations, if applicable. In the following are some examples of visual/graphic cues with respect.

- **to inform:** *bias and assumptions, convergent and divergent viewpoints relating results to the state of the art, top-down and bottom-up views, visuals without bias*

- **to persuade:** visualize “now” and projection into the future, multivariate viewpoints, call for action, inspiring visuals including use of visual saliency, multiple viewpoint visualization
- **to entertain:** multi-dimensional visualization, gamification, targeted “graphic recording/reporting”, visual story telling

## Facts, figures and thoughts (FFT)

As discussed in previous IJCARS and CARS board meetings, there is a need to enhance the impact the CARS community should have on the future of R&D in health care and its practice, specifically in the category of "Facts, Figures and Thoughts" (FFT). In the belief and assumption, that many members of the CARS community are well qualified to contribute to this ambitious goal with high-quality AMAC video presentations [3], we invite all CARS authors to be part of this endeavor.

A preliminary definition of FFT could be:

**Facts** (to inform)

Situational awareness and model building based on cognition of significant variables/objects and their interrelationships in a given domain of discourse.

**Figures** (to persuade)

Compact messaging by means of visual representations which support the main issues of the FFT, with the goal of enabling the audience a "perceiving at a glance".

**Thoughts** (to entertain) with respect to

- creative collection and analysis of significant variables/objects and their interrelationships in the given domain of discourse,
- desired future situation building and suggestions on the process on how to get there,
- making creative space for expressing imaginations, predictions, hopes and fears, wishful thinking, beliefs, bias handling, intuitions and counterfactuals,
- identifying emerging themes and topics for discussion and guidance for future R&D,

- clarifying the potential impact on patient outcome and/or improved clinical workflow.

Many members of the CARS community are aware that in-person communication guided by the features given in [1] cannot even closely be replaced by AMAC. They recognize, however, that the “Zeitgeist” requires to reflect on and to redesign the “scholarly publication and communication process” taking into account of and using (intelligent) machine assistance wherever possible. To handle this complex task, perhaps it could be helpful to be guided by quotations such as:

*"Everything should be made as simple as possible, but not simpler", Albert Einstein*

*"God is in the details", Ludwig Mies van der Rohe*

Not an easy task, but always worthwhile the effort if one takes AMAC seriously, or at least as a viable concept for discussions on an important aspect of the future of scholarly communication. In any case, the above thoughts may serve as a reference space for awards given in a video show/festival as part of a CARS Congress.

## References

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