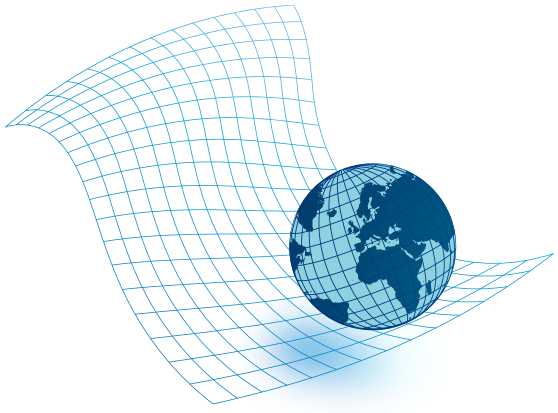
AUTHOR ARTWORK INSTRUCTIONS



Version 1.2
July 2012

Dear Author,

Help us reproduce your artwork to the highest possible standards in both paper and digital formats.

Submitting your illustrations, pictures, and other artwork (such as multimedia and supplementary files) in an electronic format helps us produce your work to the best possible standards, ensuring accuracy, clarity and a high level of detail.

These pages show how to prepare your artwork for electronic submission and include information on image types, color, sizing and other relevant background information.

Figure manipulation

Whilst it is accepted that authors sometimes need to manipulate images for clarity, manipulation for purposes of deception or fraud will be seen as scientific ethical abuse and will be dealt with accordingly.

For graphical images, journals published by Elsevier apply the following policy: no specific feature within an image may be enhanced, obscured, moved, removed, or introduced.

Adjustments of brightness, contrast, or color balance are acceptable if and as long as they do not obscure or eliminate any information present in the original. Nonlinear adjustments (e.g. changes to gamma settings) must be disclosed in the figure legend.

NEXT PAGE

Recommended file formats

Elsevier recommends that only EPS, PDF, TIFF or JPEG formats are used for electronic artwork. Microsoft Office files (Word, Excel and PowerPoint) are also accepted. See artwork guidelines for further details.

EPS (Encapsulated PostScript) is the preferred format for vector graphics (charts, graphs, technical drawings, annotated images).

Adobe Acrobat PDF format (PDF) is an increasingly common file format used for distribution of files intended primarily for printing, this format can also be used for the submission of any artwork type to Elsevier.

TIFF (Tagged Image File Format) is the recommended file format for bitmap (line art), grayscale and color halftone images.

JPEG files are accepted for grayscale and color halftone images (photographs, micrographs, etc.).

MS Office files (Word, Excel and PowerPoint): Microsoft Office® is essentially a family of applications that can be used to produce a variety of document types, including written documents, spreadsheets, presentations and databases. Although we prefer artwork files in EPS, PDF, TIFF or JPEG format, we are also aware that a number of authors already (for convenience) submit their artwork in MS Office formats. Therefore, we will continue to support these submission types, now and in the future.

Image from other applications

Almost all other common imaging programs allow you to export graphs and images in all kinds of formats.

Normally you can either do a Save As action or an Export Images As action, and select a proper document type, such as EPS or TIFF.

For EPS export you are likely asked for postscript version (choose the highest level shown) and inclusion of fonts (choose for all fonts to be embedded). Some applications may not provide you with these export actions but do allow export to PDF, or perhaps it is possible to print to the Adobe PDF virtual printer if you have that installed. Please check the export options or PDF printer settings to ensure that images are not downsampled.

For TIFF export you are likely asked for an output resolution, then pick the highest one from the list or fill in for a graph 1000 dpi and others 500 dpi.

If all of the above is not possible, then please embed your image as an image object in Microsoft Word.

Font information

To ensure that the published version (in print and online) matches your electronic source file as closely as possible, make sure that you only use the following recommended fonts (Type 1 or TrueType) in the creation of your artwork, where possible:

- Arial (or Helvetica)
- Courier
- Symbol
- Times (or Times New Roman)

If your artwork contains other, non-standard fonts, Elsevier may substitute these fonts with an Elsevier standard font (to match the style of the journal), and that may lead to problems such as missing symbols or overlapping type.

File naming

To enable Elsevier to easily identify author source files please ensure numbering, type and format is reflected in the file name. Some examples:

- FIG1.TIF = figure 1 in TIFF format
- SC4.EPS = scheme 4 in EPS format
- PL2.TIF = plate 2 in TIFF format

Always ensure that the file extension is present to enable quick and easy format identification.

Sizing of artwork

Elsevier's aim is to have a uniform look for all artwork contained in a single article. It is important to be aware of the journal style, as some of our publications have special instructions beyond the common guidelines given here. Please check the journal-specific Guide for Authors.

As a general rule, the lettering on the artwork should have a finished, printed size of 7 pt for normal text and no smaller than 6 pt for subscript and superscript characters. Smaller lettering will yield text that is hardly legible. This is a rule-of-thumb rather than a strict rule. There are instances where other factors in the artwork (e.g., tints and shadings) dictate a finished size of perhaps 10 pt.

When Elsevier decides on the size of a line art graphic, in addition to the lettering, there are several other factors to assess. These all have a bearing on the reproducibility/readability of the final artwork. Tints and shadings have to be printable at finished size. All relevant detail in the illustration, the graph symbols (squares, triangles, circles, etc) and a key to the diagram (explaining the symbols used) must be discernible.

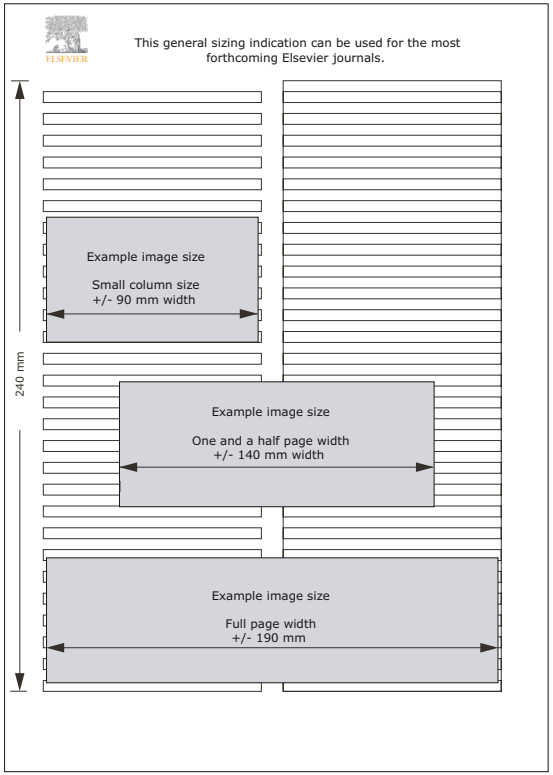
Sizing of halftones (photographs, micrographs, etc) can normally cause more problems than line art. It is sometimes difficult to know what an author is trying to emphasize on a photograph, so you can help us by identifying the important parts of the image, perhaps by highlighting the relevant areas on a photocopy. The best advice that we give to our graphics suppliers is to not over-reduce halftones, and pay attention to magnification factors or scale bars on the artwork and compare them with the details given in the artwork itself. If a collection of artwork contains more than one halftone, again make sure that there is consistency in size between similar diagrams. Halftone/line art combinations are difficult to size, as factors for one may be detrimental for the other part. In these cases, the author can help by suggesting an appropriate final size for the combination (single, 1.5, two column).

Number of pixels versus resolution and print size, for bitmap images

Image resolution, number of pixels and print size are related mathematically:
Pixels = Resolution (DPI) × Print size (in inches)

Target size	Image width	300 DPI	500 DPI	1000 DPI
Minimal size	30 mm	354	591	1181
Single column	90 mm	1063	1772	3543
1.5 column	140 mm	1654	2756	5512
Full width	190 mm	2244	3740	7480

300 DPI for halftone images; 500 DPI for combination art; 1000 DPI for line art.



Generic Information | Artwork Guidelines | Illustration Services | Multimedia | FAQ | Glossary | Contact

- Sizing of artwork
- Line art images
- Grayscale images
- Color images
- Combination art
- Figure captions
- Accepted file formats
- Checklist
- Images downsampled in PDF

PREVIOUS PAGE NEXT PAGE

Line art - EPS (vector based)

Vector graphics formats are complementary to raster graphics (images as an array of pixels, like photographs).

A vector image does not use pixels in images but mathematical expressions (e.g., “draw a line with this color and thickness between these two coordinates”). Such images are typically graphs, bar charts, chemical formulae, and plots (pure vector images, and resolution independent).

Hybrid vector images are annotated bitmap images like photographs. Such a hybrid vector image can, for instance, be created in MS PowerPoint, when you import an image (bitmap) and then annotate that image with text, lines and arrows.

Most drawing programs offer an EPS “Save As ...” option. MS Office documents are treated as hybrid vector artwork by Elsevier.

Requirements

- Always include a preview/document thumbnail
- Always include/embed fonts and use the recommended fonts where possible: Arial, Helvetica, Courier, Times, Symbol
- No data should be present outside the actual illustration area
- Line weights range from 0.10 pt to 1.5 pt

Line art - TIFF (bitmap)

This is the artwork type commonly used for graphs and charts. Information contained in black and white line art images is purely black and white with no tints or gradations present in the image.

A bitmap is an image format that defines an image only in terms of black and white. A bitmapped image is used normally for line art because its elements can only be black and white, unlike a grayscale image.

Line art should comply with the following requirements regardless of the software and hardware used during the process.

Requirements

- Images should be in Bitmap (black and white) mode
- Images should have a minimum resolution of 1000 dpi (or 1200 dpi if the image contains very fine line weights)
- Images should be tightly cropped
- If applicable please re-label your artwork with a font recommended by Elsevier and ensure it is an appropriate font size
- Save your image in TIFF format

Grayscale images in TIFF/JPEG format

Grayscale images are distinct from black-and-white images, which in the context of computer imaging are images with only two colors, black and white. Grayscale images have many shades of gray in between.

In computing, a grayscale image is an image in which the value of each pixel is a single sample, that is, it carries the full (and only) information about its intensity.

Grayscale is an image type that defines how the information in the image is to be stored and imaged. A grayscale image is sometimes referred to as an eight-bit image. This format is generally used for halftones because it stores the information for each pixel as a level of gray. There are 256 levels of gray in a halftone.

Requirements

- Images should be in grayscale mode
- Images should have a minimum resolution of 300 dpi
- Images should be tightly cropped
- If applicable please re-label your artwork with a font recommended by Elsevier and ensure it is an appropriate font size
- Save your image in TIFF format (or as JPEG, maximum quality)

RGB images in TIFF/JPEG format

RGB images are made of three color channels (Red, Green, Blue). An 8-bit per pixel RGB image has 256 possible values for each channel which means it has over 16 million possible color values. RGB images with 8 bits per channel are sometimes called 24-bit images (8 bits x 3 channels = 24 bits of data for each pixel).

RGB artwork should comply with the following requirements regardless of the software and hardware used in the process.

Requirements

- Images should be in RGB mode, preferably.
- Images should have a minimum resolution of 300 dpi.
- Images should be tightly cropped.
- If applicable please re-label your artwork with a font supported by Elsevier and ensure it is an appropriate font size.
- Save your image in TIFF format (or as JPEG, maximum quality).

Combination Art - TIFF/JPEG format

This is an image type that is a combination of both a halftone (gray or/and color) and line art elements: combination artwork.

The most common occurrences are images where the labelling of the image is outside of the halftone area, or where there is a graph next to the halftone area. The requirements for this particular type of image are that the text is as clear as possible, with unchanged quality of the halftone. The only way to do this is by combining the properties of the two image types, and this normally results in files that are larger.

Combination (line and halftone) artwork should comply with the following requirements regardless of the software and hardware used in the process.

Requirements

- The tonal areas of the image should be in RGB mode for color (preferably), or grayscale for black-and-white halftone images.
- Resolution 500 dpi.
- If applicable please re-label your artwork with a font supported by Elsevier and ensure it is an appropriate font size.
- Save your image in TIFF format (or as JPEG, maximum quality).

Combination Art - EPS format

When vector based images also contain images, such as photographs, or line art images, this is called combination artwork (hybrid vector images).

The most common cases are images where the labelling of the image is outside of the halftone area, or where there is a graph next to the halftone area. The text should be as clear as possible, and the halftone has to have a proper resolution (300 (500) dpi for halftones and 1000 dpi for line art). The only way to achieve this is by combining both image types into a hybrid vector image with industry-standard applications like Adobe Illustrator, or in MS Office (Word/PowerPoint).

It may be difficult to verify the embedded bitmap image's resolution within the hybrid vector image.

Requirements

- When color is involved, it should be encoded as RGB, preferably.
- Always include/embed fonts and use the preferred fonts (Arial (Helvetica), Courier, Symbol, Times (or Times New Roman) where possible.
- No data should be present outside the actual illustration area.
- Line weights range from 0.1 to 1.5 pt.

Figure captions

Submit figure captions with your EES submission.

There are a few ways to submit figure captions with your submission: (1) if the journal provides for a submission item type called Figure Caption, submit your caption here in the form of a text file; (2) if there is no such submission item type, you should list your figure captions at the end of your manuscript text file.

Preferred and accepted file formats for artwork submission

Application/ format	Extension	Accepted
Tagged Image File Format (TIFF)	TIF, TIFF	Allowed image format for halftones and bitmaps
Joint Photographic Experts Group (JPEG)	JPG, JPEG	Allowed image format for halftones
Encapsulated Post-Script (EPS)	EPS	Allowed image format for vector-based images (*and embedded images)
Portable Document Format (PDF)	PDF	Allowed format for texts, notes, documents, vectors
Microsoft Word	DOC, DOCX	Allowed format for texts, notes, documents
Microsoft Excel	XLS, XLSX	Allowed format
Microsoft Powerpoint	PPT, PPTX	Allowed format

Checklist

Before you submit your artwork, make sure you can answer 'yes' to the following:

- My files are in the correct format - EPS, PDF, TIFF or JPEG, or Microsoft Office files (Word, PowerPoint, Excel).
- My color images are provided in the preferred RGB colorspace (unless the journal's Guide for authors prescribes otherwise).
- The physical dimensions of the artwork match the dimensions of the journal to which I am submitting. See Sizing of Artwork.
- The lettering used in the artwork does not vary too much in size. See Sizing of Artwork.

I have used the recommended file-naming conventions. See File Naming.

- All illustrations are provided as separate files (unless the journal's Guide for authors prescribes otherwise).
- All artwork is numbered according to its sequence in the text.
- Figures, schemes and plates have captions and these are provided on a separate sheet along with the manuscript, in addition all figures are referred to in the text.
- If required, I have specified the preferred magnification factor of my artwork on the sheet with filenames that accompany the submission.

Are all the rights cleared both for print and electronic publication?

Please click here to see the guide for Elsevier authors to obtain/seek permission to use third party material:

Journals Submission Checklist

Please click here for the journals-specific submission checklist.

Question: I submitted high resolution halftone images and bitmap files, but in the PDF they are 200 dpi (JPEG) and 800 dpi, why?

All halftone images in the web PDF files are downsampled to 200 dpi, to reduce the overall file size. Bitmap images in the PDF are reduced to 800 dpi for the same reason.

Please note that the high-resolution image is available separately on our web platforms in the HTML rendering of the article via dedicated links.

The smaller Web PDF file size allows for easier handling (e-mail, downloads from websites, etc.). For print the full resolution of the image file will be used, of course.

Illustration Services

Elsevier WebShop, the one stop resource for publishing related services, provides easy access to experienced scientific and medical illustrators. Our long history of publishing peer-reviewed journals will ensure that your illustrations are matching all submission requirements.

Elsevier illustration services offers:

- Free quote in 24 business hours
- Easy self-service website
- Fast turnaround times and delivery
- Keep your illustration's Copyrights
- Prices starting from $35 / € 25 / ¥ 2600
- Secure payment

Why should you choose Elsevier?

- Professional, experienced illustrators
- Fast, easy review and commenting
- Guided by Elsevier publishing expertise
- Subject matter expertise

Did you visit Elsevier's WebShop?

One stop resource for scientists

We offer support and advancement of your research at all stages of the publication process.

Click on image to visit Elsevier's WebShop for information about this illustration services and more

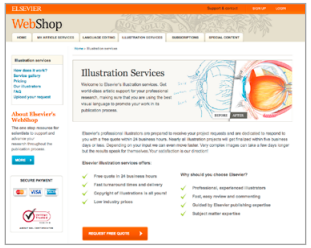
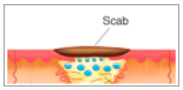


Illustration service gallery

View the sample catalogue and get an idea of our work. Choose the category of services that comes closest to what you have in mind with your illustrations. We can always provide our expert advice if needed.

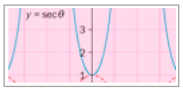
Keep in mind that the sample catalogue is only showing a small portion of our capabilities. We can do a lot more.


Technical



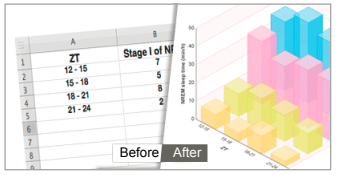
Medical

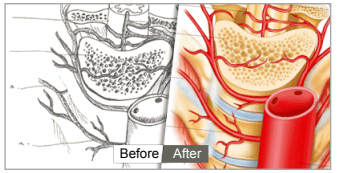

Scientific

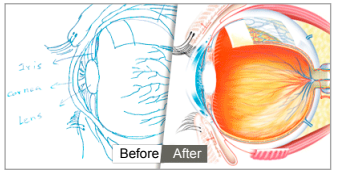


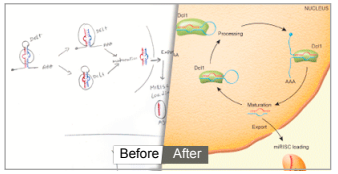
Graphs & Charts

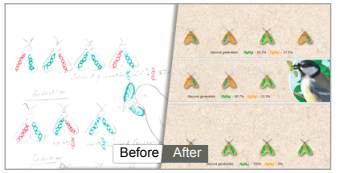
Samples











Dear Author,

Help us reproduce your multimedia content to the highest possible standards.

These pages show how to prepare your multimedia files for electronic submission and include information on common problems and suggestions on how to ensure the best results.

Instructions for submitting video content to be include within the body of an article

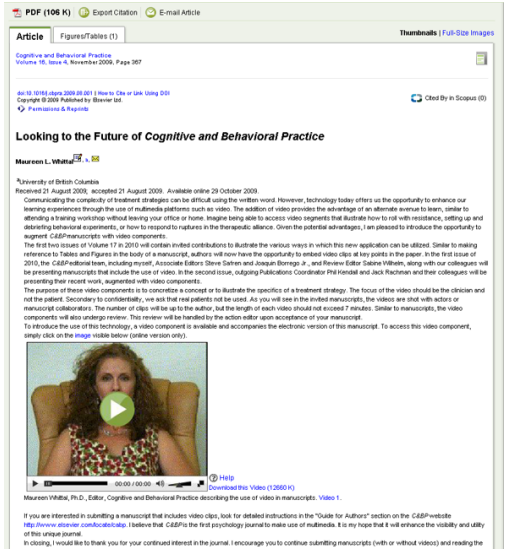
Authors who have video and/or audio clips that they wish to submit with their article are strongly encouraged to include these within the body of the article. This can be done in the same way as a figure or table by referring to the multi-media content and noting in the body text where it should be placed with its associated caption.

Please note: Since video and audio cannot be embedded in the print version of the journal, the author should provide text for both the electronic and the print version for the portions of the article that refer to the multimedia content.

All submitted files should be properly labelled so that they directly relate to the file's content. This will ensure that the files are fully searchable by users.

Instructions for submitting multimedia as supplementary data

If the content being submitted is truly "supplementary" (not essential to the content of the article or only of supplementary interest to the reader), it can be included as Supplementary Content, i.e.,



Example of a frame still used for a video clip

accessible only electronically via an active link in the article.

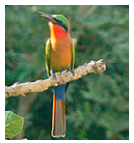
Note: Multimedia files included as Supplementary Content should be referred to at an appropriate place in the text. If this is not done, any Supplementary Content will be referred to in an appendix without specifying exactly what it is.

Supplying thumbnail images

For videos, authors should choose a relevant frame still (thumbnail) from the actual video clip that they feel is representative of the content of the video.

This will be used as an image that ScienceDirect users can click on to start playback of the video. This should be done at the time of the initial submission of the file to ensure a smooth workflow through production. The still image should have the same pixel dimensions as the source video file.

For audio clips, authors can optionally include a thumbnail image that they feel is representative of the content of the audio clip. For example, a photograph of a bird could be used for a sound clip of bird song.



Example of a photograph which can be used for a sound clip

Generic Information | Artwork Guidelines | Illustration Services | Multimedia | FAQ | Glossary | Contact

- Instructions for submitting multimedia to be included within the body of an article
- Instructions for submitting multimedia as supplementary data
- Supplying thumbnail images
- Elsevier preferred specifications
- Recommended upper limit
- Tips for video abstracts

PREVIOUS PAGE NEXT PAGE

Elsevier preferred specifications

To ensure that the majority of potential users are able to access, view and playback the data, Elsevier recommends the submission of material in the specified 'preferred' formats.

Audio

Format	Extension	Details
MP3	MP3	MPEG-1 or MPEG-2 format required; highest possible quality required; audio bit rate at least 128 kbps

Video

Format	Extension	Details
MP4	MP4	Preferred video format; H.264+AAC, max target 720p
MPG	MPG	Acceptable video format; MPEG-1 or MPEG-2 format required; highest possible quality required
Apple QuickTime	MOV	Acceptable video format
Microsoft Audio/ Video Interlaced	AVI	Acceptable video format
Compuserve GIF	GIF	Expected to be non-photographic animation-based data

If submitting video, the following specifications are a guideline for authors/contributors

- Frame rate: 15 frames per second minimum
- Video codec: H.264 (+AAC) preferred
- Video Bit rate: at least 260 kbps (750 kbps preferred)
- Recommended frame size: 492x276
- Duration: no more than 5 minutes

If the software used for the creation of your video(s)/ animation(s) cannot deliver one of the above formats, then please save them in one of the accepted formats. Any alternative format supplied may be subject to conversion (if technically possible) prior to online publication.

Recommended upper limit

For ease of download, the recommended upper limit for the size of a single video/animation file is 50 MB. When the size of a single file is bigger than this, some users may experience problems when downloading.

Tips for making a video abstracts

A video abstract is a type of video in which you briefly discuss and explain your paper in a short presentation. It should be within the conceptual scope of the article and directly support its conclusions. Note that video abstracts are subject to peer review.

- If you decide to use an interview setting, the person doing the interview should be someone other than the one doing the filming.
- The person being interviewed doesn't have to look straight at the camera; a slight angle often works better.
- Use a tripod as this will make your video steady.
- Tell a whole story and talk about your article with feeling; act as if you are addressing a class of students.
- Use different techniques, such as animations, to explain your article. You can also make scene shots of your surroundings like your institute, building, environment, etc.
- Use enough light during recording, but avoid any bright light coming from behind the person being interviewed (windows, sunlight). A light source coming from behind the camera gives the best results.
- Anyone speaking should not stand too close to walls to avoid shadow and possible echo effects.
- Speak clearly and loudly enough for recording. Use of a microphone is recommended, but don't place it too close to your mouth: breathing noises should be avoided.
- Clearly state the names of the spokespersons and provide legends, titles etc.
- Edit your video to improve the recording. You can make use of software such as Adobe Premiere Elements, Windows Movie Maker, iMovie, Final Cut Pro, Cinelerra and others.

Many of the points described can be found in videos in the following examples:

- doi:10.1016/j.cell.2009.07.034
- doi:10.1016/j.cell.2009.10.039
- doi:10.1016/j.jnt.2009.11.004
- doi:10.1016/j.jnt.2009.09.004

Why don't you accept PNG files?

We will constantly review technological developments in the graphics industry including emerging file formats - new recommended formats will be introduced where appropriate.

Why can't I supply in native format (CorelDraw, ChemDraw etc.)?

We prefer your artwork in TIFF or EPS format because these common interchange formats are readable by a wide number of applications. Virtually all image creation/manipulation software can 'Save As…' or 'Export…' to these common formats.

Can I supply an EPS file created in CorelDraw?

We only currently accept TIFF files written by CorelDraw which are exported at the appropriate resolution: 300 dpi for halftones, 500 dpi for combinations (line art and halftone together) and 1000 dpi for line art. This is due to know problems with fills and patterns when processing such images for print.

Can I supply artwork in Postscript format?

Most of the time Postscript files behave well and can be treated just like EPS files. Postscript files can have multiple pages, and this can lead to confusion. Please stick to single-page files.

I can't figure out what the resolution of my figures/ tables is in my MS Word document, where can I find this?

Unfortunately it is not possible to check image resolutions in MS Word directly. We will provide feedback after acceptance of your manuscript.

The figures and tables were primarily created in MS Excel. When I copied and pasted an image into Paint it indicated that the resolution was too low

It is not necessary to copy MS Excel figures and/or tables into Paint and then export to TIFF. You should submit MS Office documents directly, as they are an allowed artwork format (hybrid vectors images).

My black and white line art is only 300 dpi, yet your site stipulates a minimum of 1000 dpi, can I just increase the resolution in Photoshop?

No, increasing the image resolution will never improve the quality of the image. It may be possible for us to proceed with this image as a grayscale image. If the resolution is too low, the image will appear jagged or have a stair-stepped effect. Once the print size and resolution has been set, either by scanning or by saving in an image-manipulation software package, it cannot be upsampled to the desired resolution without affecting the quality negatively.

What line weights should I use on my artwork?

Any line work should use a recommended line width of 0.25 pt (absolute minimum line width is 0.1 pt), high-quality reproduction of line work below this width in print cannot be guaranteed (lower resolution output devices such as office laser printers should not be used as indicators in such cases). For prominent lines (e.g. plot lines on graphs) the weight should be approximately 1 pt.

Can I provide screen dumps as electronic artwork?

Screen dumps are not recommended as artwork, but in some cases it is unavoidable, for instance when you would like to illustrate a screen/settings from a software application. You may get a low-resolution warning for these images on submission, but you may ignore that. It will be helpful if you label these images as screen dumps.

I submitted high resolution halftone images, but in the PDF they are 200 dpi JPEG, why?

All halftone images are converted and downsampled regardless of source file image resolution to a JPEG with a resolution of 200 dpi so that the PDF can be send more easily via e-mail and is not too large on the web sites. For print purposes, the hi-resolution file will be used.

What tints of black should I use on my graphs?

It is recommended that you only use 3 or 4 variations of color or tone on one piece of artwork to avoid problems in distinguishing between lines - a good alternative is to color all lines solid black and use dashed/dotted lines to show a prominent difference.

What colors can I use on my graphs?

If your artwork is to be printed in color then use bold, solid colors as those will reproduce well. If your artwork is to be printed in black and white you must ensure that a conversion will not result in similar shades of gray - if this is the case then make use of patterns for boxes or dotted/dashed lines.

Why do you recommend RGB for color artwork?

We ask for RGB in order to ensure that your color artwork can be published online at the highest possible quality. RGB is the color space that has the highest number of available colors.

I've sent "bright and colorful" RGB files, but these colors look different in the printed version, how is this possible?

As normal, the RGB files will be converted to the CMYK (Cyan, Magenta, Yellow, blacK) color space for the print process. The CMYK color space has a far smaller 'gamut' than RGB, and hence it is not possible to accurately produce all RGB colors in print (CMYK)

Color Figures

When an accepted paper is received by Elsevier production for publication, a letter will be sent to the corresponding author advising of the number of figures to be published in color and the color costs for that journal. The corresponding author must indicate if he wishes to pay for color or if he just wants web color. If an author doesn't respond within a certain number of days, the paper will be processed for web color only.

Color Figure Reproduction Charge

For the majority of journals if the author wishes color illustrations to appear as color in print then they much cover part of the printing cost. In the online version the figures will appear in

color regardless of whether the author pays for printed color. Some journals also offer additional free offprints if the author agrees to pay for color. For details about the journal-specific cost of color figure reproduction, please contact authorsupport@elsevier.com.

Should my figures be included in my manuscript file when submitting in EES?

We prefer if you upload your figures separately to your manuscript. When our system converts your paper to PDF for the review process it will include your figures at end of the PDF file.

Note: If you used LaTeX to prepare your manuscript, your separately-uploaded EPS files can be embedded in the manuscript itself, using the appropriate commands.

How do I know if my figures are suitable for submission?

Elsevier accepts many different figure file formats, the most common being TIFF, JPEG, EPS and Microsoft Office files. Please first refer to your journal's Guide for Authors, as this may contain any unique requirements.

I am unable to upload my figures to EES. Why is this?

Please ensure that your figures are in any of the acceptable file formats; please check our Author Artwork Instructions for the recommended file formats.

The size of your figures is also a factor for upload failures. We recommend that figures are not larger that 10 MB and if you have several figures these should not be more than 7 MB each to ensure ease of upload.

If your figures are larger than that you may need to save them in a different format. Often journals have an individual limit on file size, to ensure that you are conforming to the journal requirements please check the journals Guide for Authors for this information.

If you still cannot upload your figures please contact our Customer Support Department for assistance providing information on the size and type of files you are uploading.

Can I upload figures created in ChemDraw, CorelDraw, Photoshop (PSD), Illustrator (AI) or Canvas?

We prefer your artwork in TIFF, JPEG or EPS format because these common interchange formats are readable by a wider number of applications. Virtually all image creation/manipulation software can 'Save As…' or 'Export…' to these common formats.

What about figure captions?

There are a few ways to submit figure captions with your EES submission.

1. If the journal provides for a submission item type called Figure Caption, submit your caption here in the form of a text file.

2. If there is no submission item type provided for Figure Caption, you should list your figure captions at the end of your manuscript text file

Application: Applications (or so-called software programs) are executables designed to perform specific functions. Adobe Photoshop® is an example of an application designed to perform image editing. Microsoft Word® is an example of an application designed to perform word processing.

Bitmap: A bitmap is an image format that defines an image only in terms of black and white. A bitmapped image is used normally for line art because its elements can only be black and white, unlike a grayscale image.

Color mode: Color work can be produced (sometimes unknown to the author) in several different color modes. The actual colors within these modes are defined in a dimensional coordinate system used to describe the colors numerically via values. Some models include Red, Green, Blue (RGB) or Cyan, Magenta, Yellow, Black (CMYK); and Lightness, a, b (Lab).

Color space: A particular variant of a color model with a specific gamut (i.e. range of colors), which is one of its major characteristics. For example, within the color model RGB are a number of color spaces like Apple RGB, Adobe RGB (1998), and sRGB. While each of these define color by the same three axes (R, G, and B), they differ in gamut as well as other specific characteristics.

Combination art: An image that is a combination of both a halftone and line art. The most common occurrences are images where the labelling of the image is outside of the halftone area, or where there is a graph next to the halftone area.

The requirements for this particular type of image are that the text is as clear as possible, with unchanged quality of the halftone. The only way to do this is by combining the properties of the two image types, and this normally results in files that are (significantly) larger.

CMYK stands for the four-color printing process (see also process printing) that uses the standard inks Cyan, Magenta, Yellow and Black. It is also known as subtractive color. The color black is achieved by the presence of all inks. Basically, each color can be achieved by using Cyan, Magenta and Yellow, where Black is used to give correct neutral tones and to add detail.

Cropping is the term used for the removal of any space surrounding your artwork.

DPI is an acronym of Dots-per-inch (sometimes called Pixels-per-inch), the associated value of which gives he number of pixels that are defined within the boundary of an inch, and is often referred to as the resolution of the image. The more correct term is pixels-per-inch, but dots-per-inch is still used widely in the pre-press/printing industry.

EPS stands for the Encapsulated PostScript format from Adobe. An EPS file is an image that has been created using the language of PostScript, and is generally resolution-independent because it has been created using vectors (unless it contains an 'embedded' bitmap image, like a TIFF file, then the TIFF file's resolution is restricted by its dpi). Because it is the vector that draws the image, the computer can draw the image at any resolution. The computer can thus determine at what resolution it is to draw the image (or portion of the image) on the printing device to which it is connected. An EPS file is normally used for combination artwork or charts and graphs. To be able to scale line art without loss of detail, the EPS format is usually used.

Gamut: When certain colors cannot be displayed within a particular color model, those colors are said to be out of gamut. For example, pure red which is contained in the RGB color model gamut is out of gamut in the CMYK model.

GIF stands for 'Graphic Interchange Format', the standard was developed by Compuserve and is the predominant image format on the web today, this is an image format that is geared specifically towards computer screen representation. Its resolution is thus normally very low (72 dpi, or that of your computer screen), making it undesirable for printing purposes. In addition, GIF files also contain a maximum of 256 colors thus making the format less desirable for presentation of photographic/halftone images.

Grayscale images are distinct from black-and-white images, which in the context of computer imaging are images with only two colors, black and white; grayscale images have many shades of gray in between. In most contexts other than digital imaging, however, the term "black and white" is used in place of "grayscale".

Halftone: A halftone is an image like a photograph or micrograph. It is also the method of generating during printing an image that requires varying densities, or shades, to accurately render the image. This is achieved by representing the image as a pattern of dots of varying size. Larger dots represent darker areas, and smaller dots represent lighter areas of an image.

Indexed color: A color mode that contains a palette of 256 colors, or less, to define the colors in the image. Indexed color can reduce the data file size while maintaining visual quality. The reduction in file size makes it an ideal format for multimedia or web graphics. It is not used for high-end printing.

Jaggies: An effect caused by images or lines being rendered at too low a resolution. It can be defined as a 'stair-stepped' effect giving the line or image a rough appearance. By increasing the resolution, we can reduce the stair-stepped effect. It is important to remember that once an image has been saved at a lower resolution it cannot be upgraded to a higher resolution. The physical resolution will increase, but the quality of the image will not.

JPEG stands for 'Joint Photographic Experts Group'. JPEG is a standards committee that designed an image compression format. The compression format they designed is known as a lossy compression, in that it deletes information from an image that it considers unnecessary.

Line art is any image that consists of distinct straight and curved lines placed against a (usually plain) background, without gradations in shade (darkness) or hue (color) to represent two-dimensional or three-dimensional objects. Line art can use lines of different colors, although line art is usually monochromatic. This could be a TIFF file at 1000 dpi or a vector-based EPS image, to be able to scale line art without loss of detail, the EPS format is usually used.

Moiré: A noticeable, unwanted pattern generated by scanning or re-screening a piece of art that already contains a dot pattern. This effect can also be caused by the misalignment of screen angles in color work.

Native files are the default format generated by software applications (such as FreeHand, Illustrator, CorelDraw, Photoshop and Canvas) which can all be used to generate electronic artwork quickly and reliably. This application file is normally called the working file, and will have an application-specific extension (e.g. PSD for Adobe Photoshop files).

Elsevier prefers to receive such files saved in either EPS (preferred) or TIFF format, the option to save in one of these formats can normally be found under either the 'File->Save As…' or 'File->Export…' menu items of all common graphics software.

PDF: Adobe's Portable Document Format is fast becoming a standard format for document exchange. It can be a very useful format for images and may well become a preferred image format in the future.

Pixel: In digital imaging, a pixel (picture element) is the smallest piece of information in an image. Pixels are normally arranged in a regular two-dimensional grid, and are often represented using dots, squares, or rectangles. Each pixel is a sample of an original image, where more samples typically provide a more accurate representation of the original. The intensity of each pixel is variable; in color systems, each pixel has typically three or four components such as red, green, and blue, or cyan, magenta, yellow, and black.

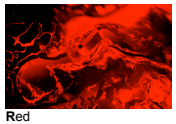
Process printing: Output based on printing that uses four colors, cyan, magenta, yellow, and black to create the illusion of continuous tone images. For that reason, cyan, magenta, yellow, and black are also known as process colors (CMYK).

PostScript (PS): A page description language created by Adobe Systems Inc that is a device-independent industry standard for outputting documents and graphics.

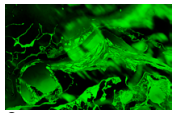
RIP: A raster image processor (RIP) is a component used in a printing system which produces a raster image also known as a bitmap. The bitmap is then sent to a printing device for output. Raster image processing is the process and the means of turning vector digital information such as a PostScript file into a high-resolution raster image.

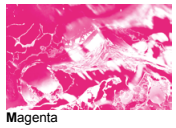
Resolution: The resolution of an electronic file expressed as dots per inch (dpi). We have different resolution requirements based on the type of image supplied. Final (output) resolution for print can be anywhere between 300 and 3300 dpi.

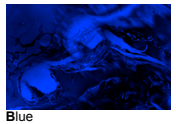
RGB (Red, Green, Blue) our preferred color space for artwork. RGB is the color space used by computer displays. The presence of all three colors as light waves is perceived by the eye as white; the absence of light is perceived as black. This is also known as additive color. RGB color is very different from CMYK color. The number of colors that can be generated by RGB mode is much larger than those that can be generated by CMYK.


Red

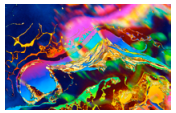

Cyan


Green

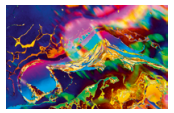

Magenta

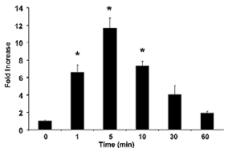

Blue

Yellow

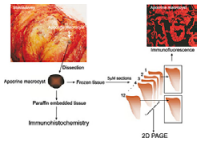

RGB


Black

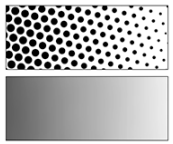

CMYK

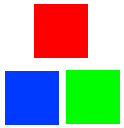

Line art


Grayscale

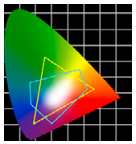

Combination art

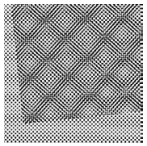
(Enlarged)


Halftone


RGB


CMYK


RGB color space
CMYK color space


Moiré

Generic Information | Artwork Guidelines | Illustration Services | Multimedia | FAQ | Glossary | Contact

• Glossary

PREVIOUS PAGE NEXT PAGE

Contact and Support

For generic questions about creating artwork and multimedia files, please contact us at:
sqsartwork@elsevier.com

Should you have any additional questions or concerns, please visit our self-help site at:
support.elsevier.com

Here you will be able to search for solutions on a range of topics, find answers to frequently asked questions and learn more about EES via interactive tutorials.

You will also find our 24/7 support contact details should you need further assistance from one of our customer service representatives.

Live Chat

Chat live online to one of our representatives

> Chat Now