

# Quick Start Imagine++

## 1. Installing Imagine++

Installation: see <http://imagine.enpc.fr/~monasse/Imagine++/>

## 2. Imagine++ Documentation

Online documentation: see <http://imagine.enpc.fr/~monasse/Imagine++/>

- Graphics library: [http://imagine.enpc.fr/~monasse/Imagine++/group\\_\\_graphics.html](http://imagine.enpc.fr/~monasse/Imagine++/group__graphics.html)
- Images library: [http://imagine.enpc.fr/~monasse/Imagine++/group\\_\\_images.html](http://imagine.enpc.fr/~monasse/Imagine++/group__images.html)

See also Appendix C of this text book:

- La programmation pour les élèves ingénieurs  
<http://imagine.enpc.fr/~monasse/Info/programmer.pdf>

## 3. Quick Introduction to Imagine++

### 3.1. Header

```
#include <Imagine/Graphics.h>
#include <Imagine/Images.h>
using namespace Imagine;
```

### 3.2. Useful types and functions

- small integer (typically for greyscale or color intensity) between 0 and 255: `byte`
- reference to file located in source directory: `srcPath("file_in_src_dir.txt")`
- Color `col(red,green,blue)` predefined: `BLACK, WHITE, BLUE, RED...`
- image class: `Image<byte>, Image<float>`
- image creation: `Image<float> I(w,h)`
- image loading: `bool ok = load(I, srcPath("image.jpg"))`
- image access: `I(x,y)=0; return I(x+a,y+b)`
- image size: `I.height(), I.width()`
- sub-image creation: `I.getSubImage(x,y,w,h)`
- image enlargement by given factor (with interpolation): `enlarge(I, fact)`
- image blurring with Gaussian of given sigma: `blur(I, sigma)`
- representation of a scalar image (e.g. double) by a greyscale (e.g. byte): `bI=grey(dI)`
- window opening: `Window W=openWindow(w,h)`
- selecting window for next draw orders: `setActiveWindow(W)`
- image displaying in open window at given offsets: `display(I, x=0, y=0)`
- drawing: `drawLine(x1,y1,x2,y2,color)` `drawRect(x,y,w,h,color)`  
`display(img,x,y)` `drawString("hello",x,y,color)`
- wait for mouse click in active window: `click()`, in any window: `anyClick()`
- get mouse position when button clicked: `int button = getMouse(x,y)`
- key press: `int c=getKey(). c='a','0','!'. Special: KEY_UP, KEY_SPACE, KEY_F1...`