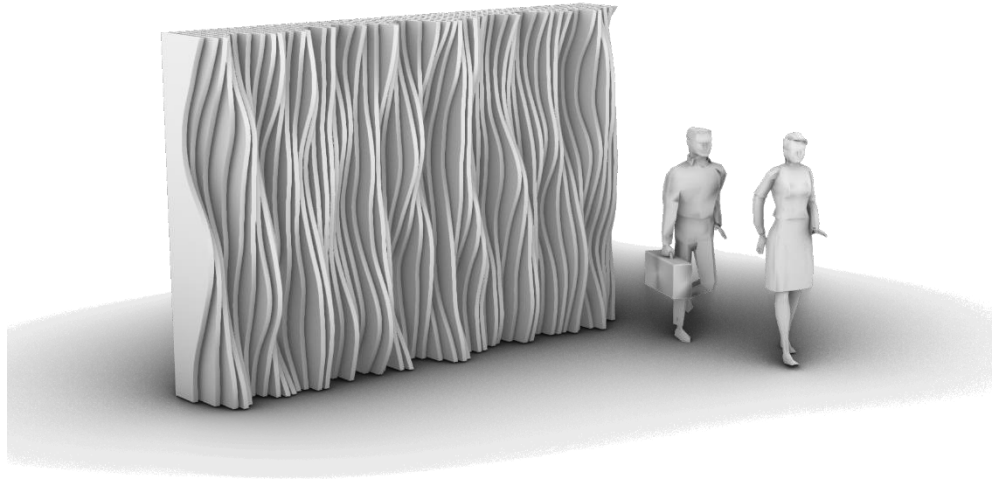


## **Logiciels utilisés**

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**Création d'un outil permettant un apport de connaissances aux concepteur dans les phénomènes de vent, dans le cadre de son élaboration de la conception schématique pour un bâtiment de moyenne hauteur.**





Programme	Version	Editeur	Mise-à-jour	Site
Rhinoceros 3D	7 SR36	Robert McNeel & Associates	21-11-2023	<a href="https://www.rhino3d.com/">https://www.rhino3d.com/</a>
Grasshopper	5	Robert McNeel & Associates	12-12-2023	<a href="https://www.grasshopper3d.com/">https://www.grasshopper3d.com/</a>
Ladybug	1.8.0	Ladybug Tools LLC	23-03-2024	<a href="https://www.ladybug.tools/">https://www.ladybug.tools/</a>
Honeybee	0.0.66	Ladybug Tools LLC	27-08-2020	<a href="https://www.ladybug.tools/honeybee.html">https://www.ladybug.tools/honeybee.html</a>
Butterfly	0.0.05	Ladybug Tools LLC	23-02-2019	<a href="https://www.ladybug.tools/honeybee.html">https://www.ladybug.tools/honeybee.html</a>
Epw maps	/	Ladybug Tools LLC	2-06-2024	<a href="https://www.ladybug.tools/epwmap/">https://www.ladybug.tools/epwmap/</a>
Eddy3D	0.4.8.0	Eddy3D	4-03-2024	<a href="https://www.eddy3d.com/">https://www.eddy3d.com/</a>
Bifocals	/	Marc Syp	23-02-2016	<a href="https://www.food4rhino.com/en/app/bifocals">https://www.food4rhino.com/en/app/bifocals</a>
Lunchbox	2024.2.9.0	Nathan Miller	16-04-2024	<a href="https://apps.provingground.io/lunchbox/">https://apps.provingground.io/lunchbox/</a>
Karamba3D	2.2.0	Karamba3D	22-02-2024	<a href="https://karamba3d.com/">https://karamba3d.com/</a>
Anemone	0.1	Mateusz Zwierzycki	4-12-2013	<a href="https://www.grasshopper3d.com/group/anemone">https://www.grasshopper3d.com/group/anemone</a>
Octopus	0.4	Robert Vierlinger, Christoph Zimmel	5-12-2018	<a href="https://www.food4rhino.com/en/app/octopus">https://www.food4rhino.com/en/app/octopus</a>
Galapagos	/	David Rutten	10-11-2023	<a href="https://www.grasshopper3d.com/group/galapagos">https://www.grasshopper3d.com/group/galapagos</a>
OpenFOAM	2312	OpenCFD Ltd (ESI Group)	31-12-2023	<a href="https://www.openfoam.com/">https://www.openfoam.com/</a>
BlueCFD-Core	2017-2	FSD Portugal	10-02-2017	<a href="https://bluecfd.github.io/Core/Downloads/">https://bluecfd.github.io/Core/Downloads/</a>
ParaView	5.12.0	KitWare	29-08-2023	<a href="https://www.paraview.org/download/">https://www.paraview.org/download/</a>
Visual Studio	1.89.1	Microsoft	9-05-2024	<a href="https://visualstudio.microsoft.com/fr">https://visualstudio.microsoft.com/fr</a>
Excel	2021	Microsoft	5-10-2021	<a href="https://www.microsoft.com/fr-fr/microsoft-365/excel">https://www.microsoft.com/fr-fr/microsoft-365/excel</a>

Figure 1 Logiciels utilisés lors de la création du programme "Conception Papillon"