Certificate of Online Course Participation

I hereby certify that

Mrs. Michalina Dengusiak

has attended the **C# level 3 online training** on October 26th through October 28th hosted by McNeel Europe.

The workshop taught by Mr. Long Nguyen focused on fairly advanced concepts of the C# programming language (to tackle computationally intensive problems such as simulations, complex geometry processing of big data). It addressed more in-depth knowledge about the RhinoCommon programming library (going beyond geometry objects), and clear optimisation techniques using the RhinoCommon and Grasshopper API. Amongst other, the following topics were covered: Custom graphics display (custom colours, materials, styles, etc.); introduction to C# delegates; treating functions/methods as objects; computational complexity- understanding code performance and scalability;
spatial data structure using RhinoCommon R-Trees to accelerate 3D searches, proximity checking, and collision detection; and parallel computation with the .NET Task Parallel Library.

The course covered 18 hours.

Barcelona, October 30th 2020

Verena Vogler,
Training department at McNeel Europe