



**Università
degli Studi
di Palermo**

Dipartimento di Ingegneria
Direttore: Prof. Livan Fratini



Laboratorio di Laboratorio METAL@I3D Modeling, Engineering, Technology, Laboratory, BIM 3D

Responsabile Scientifico:

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Ubicazione:

Ed. 8 PT

Attività di ricerca: Sperimentazione nei campi di: Reverse Engineering, Modeling & Geometric Analysis, Pavement Distress Analysis and Smart Monitoring, BIM, ICT, Drones, Forensic Engineering.

Le attività svolte all'interno di laboratorio riguardano la sperimentazione nei campi di: Reverse Engineering, Modeling & Geometric Analysis, Pavement Distress Analysis and Smart Monitoring, BIM, ICT, Drones, Forensic Engineering.





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In particolar modo all'interno del laboratorio sono state individuate alcune micro sezioni operative sui seguenti temi:

1. Reverse Engineering (RE)

- Image Based Modeling; 3D scanning; Photogrammetry.

2. Modeling & Geometric Analysis (M&GA)

- Geometric Analysis; 3D Digital Curation and Museology; Descriptive Geometry; 3D Architectural Geometry.

3. Pavement Distress Analysis and Smart Monitoring

Experimental methodology for pavement distresses survey; Strategies and indexes for pavement distresses analysis; Smart Monitoring for Civil Infrastructures.

4. BIM for Civil Infrastructures and CH

3D modelling for BIM; Virtual Reality for BIM; Augmented Reality for BIM; Facility Management Interoperability





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5. Valorization and Communication Strategy for CH

Digital culture and Characteristics of digital information: ICT supporting culture via web: virtual and interactive museum; ICT supporting culture via mobile: application for culture and tourism; Social Media supporting culture; Google Cultural Institute and its role in a global digitization of culture.

6. Drones Application and Experimentation

- 3D reconstruction and spherical images; 3D Monitoring for Civil Infrastructure.

7. Forensic Engineering

- 3D reconstruction of accident scenarios aimed at reconstructing the accident dynamics.

Principali apparecchiature:

1. stampante WASP 3D,
2. due postazioni hardware,
3. dispositivi fotografici.