





MORPHIC DENTISTRY: LEVERAGING 4D PRINTING FOR ADAPTIVE ENDODONTICS

Hydrogels (= Shape memory alloys Responsive

materials

Smart materials enable the creation of dynamic structures that can selfassemble, self-repair, or change their physical characteristics.

Self healing Piezoelectric materials materials



Smart materials **Structural** design



- **CAD Software**
- **Simulation Software**
- **Slicing Software**
- **Programming Environments**
- **Material-Specific Software**



Stimulus

Functionality



SLA SLS

DLP DIW

Inkjet

Combining 3D printing with advanced materials enables the creation of complex, responsive geometries.





3D Printing technology

Applications



















