

1. Record Nr.	UNINA9910780781303321
Titolo	Introduction to the design of fixed-wing micro air vehicles : including three case studies / / Thomas J. Mueller [et al.]
Pubbl/distr/stampa	New York, : American Institute of Aeronautics and Astronautics, Inc., c2007
ISBN	1-60086-210-1 1-60086-082-6
Descrizione fisica	1 online resource ([xiv], 288 pages) : illustrations, photographs
Collana	AIAA education series
Altri autori (Persone)	MuellerT. J KelloggJames IfjuPeter ShkarayevSergey V
Disciplina	623.74/69
Soggetti	Micro air vehicles Reconnaissance aircraft
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	""Cover""; ""Title""; ""Copyright""; ""Foreword""; ""Table of Contents""; ""Preface""; ""1. Overview of Micro-Air-Vehicle Development""; ""2. Elements of Aerodynamics, Propulsion, and Design""; ""3. Autopilot Integration into Micro Air Vehicles""; ""4. Case Study: Micro Tactical Expendable Rigid-Wing Micro Air Vehicle""; ""5. Flexible-Wing Micro Air Vehicles""; ""6. Development of Micro Air Vehicles with in-Flight Adaptive Wing""; ""7. Summary""; ""Index""; ""Supporting Materials""
Sommario/riassunto	This book presents a brief history of unmanned air vehicles that led to micro air vehicles and the student competitions that began in 1997. Elements of aerodynamics for low-aspect-ratio wings, propulsion, and the basic concepts for fixed-wing MAV design and a method for autopilot integration into micro air vehicles are included. Three different wing configurations (i.e., rigid cambered, flexible, and adaptive wings) are presented in the case studies. The purpose of this book is to help the reader design, build, and fly micro air vehicles and in this way add to the development of ever-smaller airplanes. Although MAVs can be built using inexpensive model airplane components, they

should not be flown by inexperienced pilots without the proper outdoor area, flight training, and insurance. They are very difficult to fly and very difficult for bystanders to see. In the United States, the Academy of Model Aeronautics in Muncie, Indiana, can help locate the proper flying field, flight instructors, and insurance.
