

1. Record Nr.	UNINA9910457777803321
Autore	Denny Mark <1953->
Titolo	Engineering animals [[electronic resource] ] : how life works / / Mark Denny, Alan McFadzean
Pubbl/distr/stampa	Cambridge, Mass., : Belknap Press of Harvard University Press, 2011
ISBN	0-674-06085-7
Descrizione fisica	1 online resource (396 p.)
Altri autori (Persone)	McFadzeanAlan <1958->
Disciplina	591.7
Soggetti	Physiology Animals - Adaptation Animal ecophysiology Electronic books.
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Bibliographic Level Mode of Issuance: Monograph
Nota di bibliografia	Includes bibliographical references (p. [351]-369) and index.
Nota di contenuto	pt. 1. Structure and movement -- pt. 2. Remote sensing.
Sommario/riassunto	The alarm calls of birds make them difficult for predators to locate, while the howl of wolves and the croak of bullfrogs are designed to carry across long distances. From an engineer's perspective, how do such specialized adaptations among living things really work? And how does physics constrain evolution, channeling it in particular directions? Writing with wit and a richly informed sense of wonder, Denny and McFadzean offer an expert look at animals as works of engineering, each exquisitely adapted to a specific manner of survival, whether that means spinning webs or flying across continents or hunting in the dark-or writing books. This particular book, containing more than a hundred illustrations, conveys clearly, for engineers and nonengineers alike, the physical principles underlying animal structure and behavior. Pigeons, for instance-when understood as marvels of engineering-are flying remote sensors: they have wideband acoustical receivers, hi-res optics, magnetic sensing, and celestial navigation. Albatrosses expend little energy while traveling across vast southern oceans, by exploiting a technique known to glider pilots as dynamic soaring. Among insects, one species of fly can locate the source of a sound precisely, even though the fly itself is much smaller than the wavelength of the sound

it hears. And that big-brained, upright Great Ape? Evolution has equipped us to figure out an important fact about the natural world: that there is more to life than engineering, but no life at all without it.

2. Record Nr.	UNINA9910465635803321
Autore	Hida Haruzo
Titolo	Hilbert modular forms and Iwasawa theory [[electronic resource] /] / Haruzo Hida
Pubbl/distr/stampa	Oxford, : Clarendon, 2006
ISBN	1-280-90406-2 9786610904068 0-19-151387-3 1-4294-6994-3
Descrizione fisica	1 online resource (417 p.)
Collana	Oxford mathematical monographs
Disciplina	512.74
Soggetti	Forms, Modular Hilbert modular surfaces Iwasawa theory Electronic books.
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	Contents; 1 Introduction; 1.1 Classical Iwasawa theory; 1.1.1 Galois theoretic interpretation of the class group; 1.1.2 The Iwasawa algebra as a deformation ring; 1.1.3 Pseudo-representations; 1.1.4 Two-dimensional universal deformations; 1.2 Selmer groups; 1.2.1 Deligne's rationality conjecture; 1.2.2 Ordinary Galois representations; 1.2.3 Greenberg's Selmer groups; 1.2.4 Selmer groups with general coefficients; 1.3 Deformation and adjoint square Selmer groups; 1.3.1 Nearly ordinary deformation rings; 1.3.2 Adjoint square Selmer groups and differentials 1.3.3 Universal deformation rings are noetherian 1.3.4 Elliptic modularity at a glance; 1.4 Iwasawa theory for deformation rings; 1.4.1 Galois action on deformation rings; 1.4.2 Control of adjoint square

Selmer groups; 1.4.3  $p$ -adic forms; 1.5 Adjoint square L-invariants; 1.5.1 Balanced Selmer groups; 1.5.2 Greenberg's L-invariant; 1.5.3 Proof of Theorem 1.80; 2 Automorphic forms on inner forms of  $GL(2)$ ; 2.1 Quaternion algebras over a number field; 2.1.1 Quaternion algebras; 2.1.2 Orders of quaternion algebras; 2.2 A short review of algebraic geometry; 2.2.1 Affine schemes; 2.2.2 Affine algebraic groups; 2.2.3 Schemes; 2.3 Automorphic forms on quaternion algebras; 2.3.1 Arithmetic quotients; 2.3.2 Archimedean Hilbert modular forms; 2.3.3 Hilbert modular forms with integral coefficients; 2.3.4 Duality and Hecke algebras; 2.3.5 Quaternionic automorphic forms; 2.3.6 The Jacquet-Langlands correspondence; 2.3.7 Local representations of  $GL(2)$ ; 2.3.8 Modular Galois representations; 2.4 The integral Jacquet-Langlands correspondence; 2.4.1 Classical Hecke operators; 2.4.2 Hecke algebras; 2.4.3 Cohomological correspondences; 2.4.4 Eichler-Shimura isomorphisms; 2.5 Theta series; 2.5.1 Quaternionic theta series; 2.5.2 Siegel's theta series; 2.5.3 Transformation formulas; 2.5.4 Theta series of imaginary quadratic fields; 2.6 The basis problem of Eichler; 2.6.1 The elliptic Jacquet-Langlands correspondence; 2.6.2 Eichler's integral correspondence; 3 Hecke algebras as Galois deformation rings; 3.1 Hecke algebras; 3.1.1 Automorphic forms on definite quaternions; 3.1.2 Hecke operators; 3.1.3 Inner products; 3.1.4 Ordinary Hecke algebras; 3.1.5 Automorphic forms of higher weight; 3.2 Galois deformation; 3.2.1 Minimal deformation problems; 3.2.2 Tangent spaces of local deformation functors; 3.2.3 Taylor-Wiles systems; 3.2.4 Hecke algebras are universal; 3.2.5 Flat deformations; 3.2.6 Freeness over the Hecke algebra; 3.2.7 Hilbert modular basis problems; 3.2.8 Locally cyclotomic deformation; 3.2.9 Locally cyclotomic Hecke algebras; 3.2.10 Global deformation over a  $p$ -adic field; 3.3 Base change; 3.3.1  $p$ -Ordinary Jacquet-Langlands correspondence; 3.3.2 Base fields of odd degree; 3.3.3 Automorphic base change; 3.3.4 Galois base change; 3.4 L-invariants of Hilbert modular forms; 3.4.1 Statement of the result; 3.4.2 Deformation without monodromy conditions

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## Sommario/riassunto

Describing the applications found for the Wiles and Taylor technique, this book generalizes the deformation theoretic techniques of Wiles-Taylor to Hilbert modular forms (following Fujiwara's treatment), and also discusses applications found by the author.

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