
Iso 14801

Biomaterial Mechanics

Proceedings of the 15th IFToMM World Congress
on Mechanism and Machine Science

TMS 2017 146th Annual Meeting & Exhibition
Supplemental Proceedings

YY/T 0520-2009: Translated English of Chinese
Standard (YYT 0520-2009, YY/T0520-2009,
YYT0520-2009)

Proceedings of ESREL 2016 (Glasgow, Scotland,
25-29 September 2016)

Biodental Engineering V

Managing Medical Devices within a Regulatory
Framework

A Primer Based on Best Practices

Magnesium Materials

Pulvermetallurgische Herstellung von porösem
Titan und von NiTi-Legierungen für
biomedizinische Anwendungen

New Technologies and Future Prospects

Biomedical Engineering Design

EVALUATION OF 30u222b AND 45u222b ANGLED
PROSTHETIC ABUTMENTS IN ZYGOMATIC
IMPLANTS. ANALYSIS OF FINITE ELEMENTS

Materials, Devices and Challenges

PN-EN ISO 14801

Porous Metals and Metallic Foams : Proceedings
of the Fifth International Conference on Porous
Metals and Metallic Foams, September 5-7, 2007,
Montreal Canada

Catalogue

Minimally Invasive Oral and Maxillofacial Surgery

October 9-12, 2014, Tainan, Taiwan

Dentistry - Implants - Dynamic fatigue test for endosseous dental implants (ISO 14801: 2007)

Medical Device

Advances in Ceramic Biomaterials

From Mountain Bikes to Degradable Bone Grafts

Resistance of Dental Implants with Different Bone Defect Heights Submitted to Implantoplasty. An in Vitro Study

Dental Implants, Part II: Computer Technology, An Issue of Oral and Maxillofacial Surgery Clinics of North America

Dental Implant Macrogeometry and Biomaterials

Phillips' Science of Dental Materials E-Book

Titanium and titanium alloy dental implant attachments [After payment, write to & get a FREE-of-charge, unprotected true-PDF from:

Sales@ChineseStandard.net]

Biomaterials for Organ and Tissue Regeneration

Design of New Root-form Endosseous Dental

Implant and Evaluation of Fatigue Strength Using Finite Element Analysis

Dental Implant Materials 2019

Advances in Mechanism and Machine Science

Dental Biomaterials

MetFoam 2007

Proceedings of the 5th International Conference on Biodental Engineering (BIODENTAL 2018), June 22-23, 2018, Porto, Portugal

Fatigue Testing of Straight and Angled Abutments

in a High Torque Dental Implant System
YY 0304-2009: Translated English of Chinese
Standard. YY0304-2009

A Novel Zirconia-based Composite Presents an
Aging Resistant Material for Narrow-diameter
Ceramic Implants
Safety and Reliability. Theory and Applications

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EMILIO NATALIE

Biomaterial

Mechanics MDPI

The aim of this study is to evaluate two angled abutments in Cone Morse Zygomatic implants, through finite element analysis following ISO-14801. This International Standard specifies a dynamic method for testing dental implants. It is most useful for comparing dental implants of different designs and or sizes. Although this International Standard

simulates the functional loading of a dental implant under extreme conditions, it is not applicable for predicting the in vivo performance of a dental implant or dental prosthesis, particularly if multiple dental implants are used for a prosthesis.

Proceedings of the 15th IFToMM World Congress on Mechanism and Machine Science

Springer

Dentistry is a branch of medicine with its own particularities and very different fields of action, and is generally regarded as an

interdisciplinary field. The use of new technologies is currently the main driving force for the series of international conferences on Biodental Engineering (BIODENTAL ENGINEERING V contains the full papers presented at the 5th International Conference on Biodental Engineering (BIODENTAL 2018, Porto, Portugal, 22-23 June 2018). The conference had two workshops, one of them dealing with computational imaging combined with finite element method, the other dealing with bone tissue remodelling models. Additionally, the conference had three special sessions and sixty contributed

presentations. The topics discussed in BIODENTAL ENGINEERING V include: Aesthetics Bioengineering Biomaterials Biomechanical disorders Biomedical devices Computational bio- imaging and visualization Computational methods Dental medicine Experimental mechanics Signal processing and analysis Implantology Minimally invasive devices and techniques Orthodontics Prosthesis and orthosis Simulation Software development Telemedicine Tissue engineering Virtual reality The purpose of the series of BIODENTAL Conferences on Biodental Engineering, initiated in 2009, is to perpetuate knowledge

on bioengineering applied to dentistry, by promoting a comprehensive forum for discussion on recent advances in related fields in order to identify potential collaboration between researchers and end-users from different sciences.

TMS 2017 146th Annual Meeting & Exhibition Supplemental Proceedings Woodhead Publishing

Root form dental implants are a common solution used today to replace missing teeth. However current designs still suffer from a number of limitations. Angled abutments are used for incisors, where maximum human bite forces are normally 200N, while straight abutments are used for

molars subjected to higher forces 200 N. The aim of this study was to evaluate the mechanical performance of a novel dental implant system by fatigue testing straight and 15-degree angled abutments. It was hypothesized that the novel thread design will dissipate the load evenly throughout the implant allowing the system to withstand normal chewing forces. Implants with 4.2 mm diameter were tested according to ISO 14801 in specimen holders tilted 30o and 25o, respectively, to illustrate worst case scenarios. Three straight and three angled abutment systems with screws torqued to 35 Ncm, were subjected to a load-to-failure test.

This maximum load was decreased by 20% increments for cyclically loading implants at 2 Hz in air at room temperature until failure or run-out (2,000,000 cycles). Three implants were tested at each load to generate an S-N curve and endurance limit. Implant systems were then polished and etched to examine grain boundaries, determine the orientation of the original manufacturer cut and their potential effects on the mechanical properties of the implants' material (Ti alloy). Systems with straight abutments produced a mean load-to-failure of 603 N, an endurance limit of 121 N and a maximum bending moment of 665 Nmm. Systems with angled

abutments yielded 487 N, 195 N and 906 Nmm, respectively. Microstructure studies showed a polycrystalline alpha structure with different grain orientations for the implant body and smaller alpha-beta structure for the abutment and screw. Cyclic loading was an initial study to evaluate the mechanical properties of the novel thread designed to provide sufficient area to dissipate the load evenly throughout the entire implant. The endurance limit of the angled abutment fell within the "safe" range, while the straight system showed a lower value. Surface treatment, diameter size and material enhancement through grain refinement may affect the strength of

the implant construct.
YY/T 0520-2009:
Translated English of
Chinese Standard (YYT
0520-2009,
YY/T0520-2009,
YYT0520-2009)
Dentistry - Implants -
Dynamic fatigue test
for endosseous dental
implants (ISO 14801:
2007)PN-EN ISO
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2007Porous Metals and
Metallic Foams :
Proceedings of the
Fifth International
Conference on Porous
Metals and Metallic
Foams, September 5-7,
2007, Montreal Canada
Internationally known
author, Randolph R.
Resnik, DMD, MDS is a
leading educator,
clinician, author and
researcher in the field
of Oral Implantology
and Prosthodontics.
Surgical protocols
provide the latest,
most up-to-date

literature and
techniques that
provide a proven
system for
comprehensive
surgical treatment of
dental implant
patients. Thoroughly
revised content
includes current
diagnostic
pharmacologic and
medical evaluation
recommendations to
furnish the reader with
the latest literature-
based information.
Proven strategies and
fundamentals for
predictable implant
outcomes Latest
implant surgical
techniques for socket
grafting and ridge
augmentation
procedures Proven,
evidence-based
solutions for the
treatment of peri-
implant disease
Includes the use of
dermal fillers and

botox in oral implantology Up-to-date information on advances in the field reflects the state-of-the-art dental implantology.

Proceedings of ESREL 2016 (Glasgow, Scotland, 25-29 September 2016) Government

Printing Office
E-glass fiber-reinforced composites (FRC) have become popular in dental and medical applications for load-bearing applications. This is due to their enhanced biomechanical matching with living tissues compared to traditional materials, as well as additional biocompatible properties. Recently, it has been shown that FRC enhances gingival soft tissue integration. Besides, satisfactory

results have been observed after undergoing five years of simulated oral fatigue on unidirectionally reinforced FRC abutments. These studies make FRC promising materials for implant abutment applications.

Nonetheless, there is a lack of studies regarding bacterial adhesion of FRC when compared with those published on traditional implant abutment materials.

Furthermore, the effect of different fiber orientation on the load-bearing capacity of FRC abutments has yet to be determined.

Therefore, this work aimed to evaluate E-glass FRC in terms of biological and mechanical aspects in order to explore a new

alternative metal-free abutment material. A further aim has been to develop a standard set of surface analysis methods. Surface topography characterization was performed by using atomic force microscopy and white light interferometry. Wettability was determined by using the sessile drop method. Additionally, a novel standard set of surface parameters to characterize biomaterial surfaces was proposed taking into account their correlation values and sensitivity in material discrimination (Study I). The attachment (bacterial adhesion) of *Escherichia coli* and *Staphylococcus aureus* was determined and discussed (Study II). Finally, the mechanical

properties were assessed by three-point bending tests and the load-bearing capacity examined using static loading following ISO 10477 and ISO 14801 standards (Study III). The results of the FRC surface characterization showed that they exhibited rough surfaces with hydrophobic characteristics. This increased roughness enhanced the early bacterial adhesion on FRC surfaces nevertheless, on the later, mature biofilm compensated these differences. The following parameters were best in biomaterials discrimination: Sa, Sku, and Smid at the nanoscale, Sa and Sz at the microscale and

one contact angle. Bidirectionally reinforced FRC rods showed a greater breakage capacity compared to unidirectional rods. Bidirectionally reinforced FRC abutments showed statistically higher load-bearing capacities compared to unidirectionally reinforced abutments. Hence, owing to its comparable bacterial response to current implant abutment materials in addition to the adequate mechanical properties of bidirectional FRC abutments, it can be concluded that FRC is a promising alternative material in implant prosthetic dentistry. Biodental Engineering V Academic Press Risk, Reliability and Safety contains papers

describing innovations in theory and practice contributed to the scientific programme of the European Safety and Reliability conference (ESREL 2016), held at the University of Strathclyde in Glasgow, Scotland (25–29 September 2016). Authors include scientists, academics, practitioners, regulators and other key individuals with expertise and experience relevant to specific areas. Papers include domain specific applications as well as general modelling methods. Papers cover evaluation of contemporary solutions, exploration of future challenges, and exposition of concepts, methods and processes. Topics include human factors,

occupational health and safety, dynamic and systems reliability modelling, maintenance optimisation, uncertainty analysis, resilience assessment, risk and crisis management.

Managing Medical Devices within a Regulatory Framework

Elsevier Health Sciences
Dental implant treatments are widely used and can be an option for lost teeth. Most treatment alternatives are limited due to bone structure, bone density, and patient's health condition. This book is focused on simple and complicated clinical cases, different types and designs of implants, and also the way to obtain bone-to-implant contact. We

have also sought to assess different biomaterials, bone stimulators, and types of dental implants that can reduce the gap, protect the peri-implant bone, and increase the aesthetics. The relationship of bone formation and biomaterials with dental implants is the key factor in bringing back the full reconstruction of soft and hard tissues. Additionally, the type of materials used for implant development are extremely important, especially in relation to strength and bending forces. The contact and protection of bundle bone with both biomaterials and implants will provide highly predictable success in aesthetics

and function.

A Primer Based on Best Practices Springer
 Managing Medical Devices within a Regulatory Framework helps administrators, designers, manufacturers, clinical engineers, and biomedical support staff to navigate worldwide regulation, carefully consider the parameters for medical equipment patient safety, anticipate problems with equipment, and efficiently manage medical device acquisition budgets throughout the total product life cycle. This contributed book contains perspectives from industry professionals and academics providing a comprehensive look at health technology management (HTM)

best practices for medical records management, interoperability between and among devices outside of healthcare, and the dynamics of implementation of new devices. Various chapters advise on how to achieve patient confidentiality compliance for medical devices and their software, discuss legal issues surrounding device use in the hospital environment of care, the impact of device failures on patient safety, methods to advance skillsets for HTM professionals, and resources to assess digital technology. The authors bring forth relevant challenges and demonstrate how management can foster increased clinical

and non-clinical collaboration to enhance patient outcomes and the bottom line by translating the regulatory impact on operational requirements. Covers compliance with FDA and CE regulations, plus EU directives for service and maintenance of medical devices Provides operational and clinical practice recommendations in regard to regulatory changes for risk management Discusses best practices for equipment procurement and maintenance Provides guidance on dealing with the challenge of medical records management and compliance with patient confidentiality

using information from medical devices
Magnesium Materials
Xlibris Corporation
Abstract: A novel ceria-stabilized zirconia-alumina-aluminate composite (Ce-TZP-comp) that is not prone to aging presents a potential alternative to yttrium-stabilized zirconia for ceramic oral implants. The objective of this study was to evaluate the long-term stability of a one-piece narrow-diameter implant made of Ce-TZP-comp. Implant prototypes with a narrow (3.4 mm) and regular (4.0 mm) diameter were embedded according to ISO 14801, and subgroups (n = 8) were subsequently exposed to dynamic loading (107 cycles, 98N) and/or hydrothermal treatment (aging, 85

°C). Loading/aging was only applied as a combined protocol for the 4.0 mm diameter implants. One subgroup of each diameter remained untreated. One sample was cross-sectioned from each subgroup and evaluated with a scanning electron microscope for phase-transformation of the lattice. Finally, the remaining samples were loaded to fracture. A multivariate linear regression model was applied for statistical analyses (significance at p 0.05). All samples withstood the different loading/aging protocols and no transformation propagation was observed. The narrow diameter implants showed the lowest fracture load after combined

loading/aging (628 ± 56 N; p

Pulvermetallurgische Herstellung von porösem Titan und von NiTi-Legierungen für biomedizinische Anwendungen CRC Press

This two-part issue of Oral and Maxillofacial Surgery Clinics of North America is devoted to Dental Implants. Part II focuses on Computer Technology and is edited by Dr. Ole Jensen. Articles will include: Navigation in Zygomatic Implant Placement; Fibula grafting and simultaneous implants: Jaw in a day?; Mixed reality in implant restorative dentistry; Computer guided implant treatment for complete arch restoration; Nitinol (Smileloc) complete

arch guided implant treatment; Nitinol (Smileloc) guided single implant treatment; Navigation for dental implant treatment; Bone reconstruction planning using computer technology; Printed titanium bone grafting shells for alveolar reconstruction; Printed resorbable bone grafting shells for alveolar reconstruction; Printed custom root-replicate dental implants; Surgical simulation all-on-4 implant treatment maxilla; Surgical simulation all-on-4 treatment mandible; Robotics in implant dentistry; and more!

New Technologies and Future Prospects Elsevier
This special issue provides a current

snapshot of recent advances and ongoing challenges in the development of titanium alloys for biomedical implants and devices. Titanium offers significant advantages over other materials including higher strength and better biocompatibility. This issue highlights current trends and recent developments, including the uptake of additive manufacturing (3D printing), and approaches to improve processing and performance of titanium alloys for medical applications. [Biomedical Engineering Design](#) Springer
Keep current with the evolving technology of dental materials! Phillips' Science of Dental Materials, 13th Edition provides comprehensive, up-to-

date information on the materials used in cosmetic and restorative procedures in dentistry. It introduces the physical and chemical properties that are related to selection and use of dental biomaterials, including their composition, mechanical properties, manipulative variables, and the performance of dental restorations and prostheses. This edition adds three new chapters and hundreds of new full-color photographs. Written by dental scientists Chiayi Shen and H. Ralph Rawls along with prosthodontist Josephine Esquivel-Upshaw, this leading text/reference helps dentists select the right materials for oral procedures and helps dental labs ensure

high-quality restorations. 500 full-color photos and illustrations show concepts, dental instruments, and restorations. Key terms are defined at the beginning of each chapter, covering terminology related to dental biomaterials and science. Critical thinking questions stimulate thinking and emphasize important concepts and principles. Logical, five-part organization of chapters makes the content easier to read and understand, with units on General Classes and Properties of Dental Materials, Direct Restorative Materials, Indirect Restorative Materials, Fabrication of Prostheses, and Assessing Dental Restorations. Balance

between materials science and manipulation bridges the gap of knowledge between dentists and lab technicians. Major emphasis on biocompatibility serves as a useful guide to the principles and clinical implications of restorative materials safety. Diverse and respected pool of contributors lends credibility and experience to each dental science topic. NEW! Three new chapters are added: Digital Technology in Dentistry, In Vitro Research of Dental Materials, and Clinical Research of Restorations. Elsevier

Bioceramics are an important class of biomaterials. Due to their desirable attributes such as

biocompatibility and osseointegration, as well as their similarity in structure to bone and teeth, ceramic biomaterials have been successfully used in hard tissue applications. In this book, a team of materials research scientists, engineers, and clinicians bridge the gap between materials science and clinical commercialization providing integrated coverage of bioceramics, their applications and challenges. The book is divided into three parts. The first part is a review of classes of medical-grade ceramic materials, their synthesis and processing as well as methods of property assessment. The second part contains a

review of ceramic medical products and devices developed, their evolution, their clinical applications and some of the lessons learned from decades of clinical use. The third part outlines the challenges to improve performance and the directions that novel approaches and advanced technologies are taking, to meet these challenges. With a focus on the dialogue between surgeons, engineers, material scientists, and biologists, this book is a valuable resource for researchers and engineers working toward long-lasting, reliable, customized biomedical ceramic and composites devices. Edited by a team of experts with expertise in industry and academia

Compiles the most relevant aspects on regulatory issues, standards and engineering of bioceramic medical devices as inspired by commercial and clinical needs Introduces bioceramics, their evolution and applications in hard tissue engineering and medical devices

EVALUATION OF 30u222b AND 45u222b ANGLED PROSTHETIC ABUTMENTS IN ZYGOMATIC IMPLANTS. ANALYSIS OF FINITE ELEMENTS

<https://www.chinesestandard.net>

Biomedical Engineering Design presents the design processes and practices used in academic and industry medical device design projects. The first two chapters are an overview of the design

process, project management and working on technical teams. Further chapters follow the general order of a design sequence in biomedical engineering, from problem identification to validation and verification testing. The first seven chapters, or parts of them, can be used for first-year and sophomore design classes. The next six chapters are primarily for upper-level students and include in-depth discussions of detailed design, testing, standards, regulatory requirements and ethics. The last two chapters summarize the various activities that industry engineers might be involved in to commercialize a medical device. Covers

subject matter rarely addressed in other BME design texts, such as packaging design, testing in living systems and sterilization methods Provides instructive examples of how technical, marketing, regulatory, legal, and ethical requirements inform the design process Includes numerous examples from both industry and academic design projects that highlight different ways to navigate the stages of design as well as document and communicate design decisions Provides comprehensive coverage of the design process, including methods for identifying unmet needs, applying Design for 'X', and incorporating standards and design

controls Discusses topics that prepare students for careers in medical device design or other related medical fields

Materials, Devices and Challenges Springer

Dental Biomaterials: Imaging, Testing and Modelling reviews the materials used in this important area, their performance and how such performance can be measured and optimised. Chapters review optical and electron microscopy imaging techniques for dental biomaterial interfaces. Specific materials such as dental cements, fibre-reinforced composites, metals and alloys are discussed. There is an analysis of stresses, fracture, wear and ageing in dental biomaterials as well as an evaluation of the

performance of dental adhesives and resin-dentin bonds. Chapters also review ways of assessing the performance of dental handpieces, crowns, implants and prostheses. The book also reviews the use of computer models in such areas as bond strength and shape optimisation of dental restorations. With its distinguished editors and team of experienced contributors DDental Biomaterials: Imaging, Testing and Modelling researchers, materials scientists, engineers and dental practitioners with an essential guide to the use and performance of dental biomaterials. An essential guide to the use and performance of dental biomaterials Reviews

optical and electron microscopy imaging techniques for dental biomaterial interfaces
Analyses stresses, fracture, wear and ageing in dental biomaterials and evaluates the performance of dental adhesives and resin-dentin bonds

PN-EN ISO 14801

CRC Press

Dentistry is a branch of medicine with its own peculiarities and very diverse areas of action, which means that it can be considered as an interdisciplinary field. Currently the use of new techniques and technologies receives much attention.

Biodental Engineering III contains contributions from 13 countries, which were presented at BIODENTAL 2014, the 3rd International

Conference on Biodental Engineering (Póvoa do Varzim, Portugal, 22-23 June 2014). They provide a comprehensive coverage of the state-of-the-art in this area, and address issues on a wide range of topics:

- Aesthetics -
- Bioengineering -
- Biomaterials -
- Biomechanical disorders -
- Biomedical devices -
- Computational bio-imaging and visualization -
- Computational methods -
- Dental medicine -
- Experimental mechanics -
- Signal processing and analysis -
- Implantology -
- Minimally invasive devices and techniques -
- Orthodontics -
- Prosthesis and orthosis -
- Simulation -
- Software development -

Telemedicine – Tissue engineering – Virtual reality Biodental Engineering III will be of interest to academics and others interested and/or involved in biodental engineering.

Porous Metals and Metallic Foams : Proceedings of the Fifth International Conference on Porous Metals and Metallic Foams, September 5-7, 2007, Montreal Canada
CRC Press

This volume presents the proceedings of the 9th Asian-Pacific Conference on Medical and Biological Engineering (APCMBE 2014). The proceedings address a broad spectrum of topics from Bioengineering and Biomedicine, like Biomaterials, Artificial Organs, Tissue

Engineering, Nanobiotechnology and Nanomedicine, Biomedical Imaging, Bio MEMS, Biosignal Processing, Digital Medicine, BME Education. It helps medical and biological engineering professionals to interact and exchange their ideas and experiences.

Catalogue

Forschungszentrum
Jülich

This manual will help oral implantologists to understand the principles that underlie the use of basal implants as a means to provide simple solutions to complex and highly demanding clinical situations without the need for prior bone grafting. It will also serve as a richly illustrated practical guide to

application of the technique. The book is in three parts, the first of which discusses basic principles and related themes, including osteogenesis, osseointegration, cortical anchorage stability, biomechanics, surgical techniques, and basal implant prosthodontics. Step-by-step guidance is then offered on the application of these principles, focusing on operating techniques, 3D treatment planning, transitional and final screw-secured prostheses, and postoperative follow-up. The third part of the book addresses a wide range of clinical situations that can be treated by basal implantology, with particular attention to the treatment of high, thin alveolar ridges and

the atrophic maxilla and mandible and to the correction of previous implant failures, as well as complications and postimplantation neuropathies.

Minimally Invasive Oral and Maxillofacial Surgery MDPI

This book gathers the proceedings of the 15th IFToMM World Congress, which was held in Krakow, Poland, from June 30 to July 4, 2019. Having been organized every four years since 1965, the Congress represents the world's largest scientific event on mechanism and machine science (MMS). The contributions cover an extremely diverse range of topics, including biomechanical engineering,

computational kinematics, design methodologies, dynamics of machinery, multibody dynamics, gearing and transmissions, history of MMS, linkage and mechanical controls, robotics and mechatronics, micro-mechanisms, reliability of machines and mechanisms, rotor dynamics, standardization of terminology, sustainable energy systems, transportation machinery, tribology and vibration. Selected by means of a rigorous international peer-review process, they highlight numerous exciting advances and ideas that will spur novel research directions and foster new multidisciplinary collaborations.

**October 9-12, 2014,
Tainan, Taiwan**

Woodhead Publishing Safety and Reliability – Theory and Applications contains the contributions presented at the 27th European Safety and Reliability Conference (ESREL 2017, Portorož, Slovenia, June 18-22, 2017). The book covers a wide range of topics, including:

- Accident and Incident modelling
- Economic Analysis in Risk Management
- Foundational Issues in Risk Assessment and Management
- Human Factors and Human Reliability
- Maintenance Modeling and Applications
- Mathematical Methods in Reliability and Safety
- Prognostics and System Health Management
- Resilience Engineering
- Risk Assessment

Risk Management • Simulation for Safety and Reliability Analysis • Structural Reliability • System Reliability, and • Uncertainty Analysis. Selected special sessions include contributions on: the Marie Skłodowska-Curie innovative training network in structural safety; risk approaches in insurance and finance sectors; dynamic reliability and probabilistic safety assessment; Bayesian and statistical methods, reliability data and testing; organizational factors and safety culture; software reliability and safety; probabilistic methods applied to power systems; socio-technical-economic systems; advanced safety assessment methodologies:

extended Probabilistic Safety Assessment; reliability; availability; maintainability and safety in railways: theory & practice; big data risk analysis and management, and model-based reliability and safety engineering. Safety and Reliability – Theory and Applications will be of interest to professionals and academics working in a wide range of industrial and governmental sectors including: Aeronautics and Aerospace, Automotive Engineering, Civil Engineering, Electrical and Electronic Engineering, Energy Production and Distribution, Environmental Engineering, Information Technology and Telecommunications,

Critical Infrastructures,
Insurance and Finance,
Manufacturing, Marine
Industry, Mechanical
Engineering, Natural
Hazards, Nuclear

Engineering, Offshore
Oil and Gas, Security
and Protection,
Transportation, and
Policy Making.