

# Prof.Dr. Cemal Meran

Pamukkale University Engineering Faculty, Department of Mechanical Engineering, 20160, Denizli, Turkey

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## Profile

Cemal Meran was born on April 03, 1972. He holds an undergraduate degree in Mechanical Engineering 1993. He obtained a Ph.D. in Mechanical Engineering in Turkey at Pamukkale University (2001). He progressed all experiments of Ph.D. study at Fachhochschule Regensburg (the current name is Ostbayerische Technische Hochschule Regensburg), in Germany from 1996 to 2001. He took an academic position at the University of Pamukkale (2002-present). In April 2013, he was promoted to Professor in the Department of Mechanical Engineering. He also carries administrative responsibilities including being, Manager of the Center of Materials Research and Application since 2009.

Dr. Meran's current research can be broadly classified as friction stir welding of similar or dissimilar metals. The focus is on friction stir welding of especially elevated temperature metals such as steels or stainless steels, etc. Furthermore, he is also teaching Materials Science, Maintenance Technique, Production Methods, Plastic Materials, and Laboratory Applications Desturictive or non-destructive testing of Materials. Dr. Meran also teaches Materials Science and Welding Techniques in English for Erasmus students from foreign countries at Pamukkale University, where he works.

He took over responsibilities for organizing a number of National and International conferences, symposiums, and activities. He was chair of the International Materials Symposium (IMSP) which is held every two years at Pamukkale University since 1991.

He deserved honorary awards of Prof. Fryderyk Staub Golden Owl in 2012 for achievements in promoting Polish science and higher education in the international arena and for achievements in collaboration with the Polish scientific community of materials engineering.

He is a member of the Editorial Key Reviewers Committee (formerly Editorial Board) of some international journals such as Journal of Achievements in Materials and Manufacturing Engineering, Archives of Materials Science and Engineering, Archives of Computational Materials Science and Surface Engineering, some Turkish Journal Materials and Metallurgy, Engineers and Machine.

He was chair of the alumni association of Pamukkale University from 2002 to 2005.

He has married in 2002, and has got two handsome children.

Dr. Meran, Prof. Ulf Gollub (up to retired), and Prof. Wolfram Wörner have organized dozens of student trips to Fachhochschule Regensburg, Germany since 1995. Dozens of students from the Faculty of Engineering, especially Mechanical Engineering, participated in these trips. The purpose of these trips was for Turkish and German students to get to know each other and their cultures closely and to carry out short-term joint projects together. Three of the Turkish students' technical and cultural trips to Regensburg were supported by DAAD. Some of the students who participated in the trip are still working in different companies in Germany.

Dr. Meran, and Prof. Ulf Gollub (up to retired) have also organized dozens of student trips to Pamukkale University for German students. They came to Turkey and held short-term workshops with Turkish students, and had the opportunity to get to know Turkey and Turkish Culture.

Dr. Meran is happy with a close relationship with his academic colleagues in Fachhochschule Regensburg. He gives great importance to his warm friendship with his German friends. He is especially grateful to Fachhochschule Regensburg and Germany for their contributions to his doctoral studies. Dr. Meran worked as a visiting professor at Fachhochschule Regensburg for approximately 3 months in 2001. Dr. Meran knows Regensburg and Germany very well and always enjoys being in Regensburg. Dr. Meran feels like it's his second home.

## Education

30 July 2001

PhD, Pamukkale University, Turkey

Institute Of Science And Mechanical Engineering (Dr.)

Diploma Number: 011600004

Cumulative Grade Point Average: 94.0 / 100.0

*Thesis: Weldability of Brass Materials and Selection of Suitable Welding Parameters, Pamukkale University Institute of Science and Technology, 2001, Denizli, Turkey, (Supervisor: Prof.Dr. Mehmet Yüksel, Co-Supervisor: Prof.Dr. Rolf König, Prof.Dr. Joachim Hammer (Fachhochschule Regensburg, Germany))*

07 July 1996

Master's Program, Pamukkale University, Turkey

Institute of Science, Mechanical Engineering (MA) (with Thesis)

Diploma Number: 961100003

Cumulative Grade Point Average: 89.67 / 100.0

*Thesis: Investigation of Time-Temperature-Transformation Diagrams, Pamukkale University Institute of Science and Technology, 1996, Denizli, Turkey, (Supervisor: Prof.Dr. Mehmet Yüksel)*

14 July 1993

Undergraduate, Major/Regular Education, Pamukkale University, Turkey

Faculty Of Engineering, Mechanical Engineering PR.

Diploma Number: 93320001

Cumulative Grade Point Average: 65.63 / 100.0

## Experience

- Prof.Dr., Pamukkale University, 29 April 2013 - Full Time
- Assoc.Prof.Dr., Pamukkale University, 14 April 2008 - 29 April 2013 (5 Year) - Full Time
- Assistan.Prof.Dr., Pamukkale University, 09 August 2002 - 14 November 2008 (6 Year 3 Month)
- Guest Lecturer, Hochschule Regensburg,

- Research Assistant, Dr., Pamukkale University, 30 July 2001 - 09 August 2002 (1 Year)
- Research Assistant, Pamukkale University, 14 April 1995 – 30 July 2001 (6 Year 2 Month)
- Mechanical Engineer, 01 January 1994 - 01 January 1995, Deval - Electrical Home Equipments Company, (1 Year 1 Month)
- Mechanical Engineer, 01 August 1993 - 01 January 1994, Kurtulus Heating and Cooling Engineering Company (1 Year 1 Month)

## Selected International Papers

Korkmaz, E., **MERAN, C.**, Gas metal arc welding of XPF800 steel for automotive industry: Microstructural evaluation and mechanical properties investigation, Proc IMechE Part L: J Materials: Design and Applications, 2022, Vol. 236(4) 747–756, DOI: 10.1177/14644207211056765

Korkmaz, E., **MERAN, C.**, Mechanical properties and microstructure characterization of GTAW of micro-alloyed hot rolled ferritic XPF800 steel, Engineering Science and Technology, an International Journal, 24 (2021) 503–513, <https://doi.org/10.1016/j.estch.2020.04.006>

Güner, A.T., **MERAN, C.**, Ortopedik implantlarda Kullanılan Biyomalzemeler, Pamukkale Univ Muh Bilim Derg, 26(1), 54-67, 2020, DOI: 10.5505/pajes.2019.46666, ISSN 2147-5881

Korkmaz E., Gülsöz A., **MERAN C.**, (2019) The Friction Weldability of AA6063 Tube to AA6082 Tube Plates Using an External Tool. In: Silva L. (eds) Materials Design and Applications II. Advanced Structured Materials, vol 98. Springer, Cham (Book Chapter)

GÜNER, A.T., **MERAN, C.**, A Review on Plasma Sprayed Titanium and Hydroxyapatite Coatings on Polyetheretherketone Implants, Int. J. Surface Science and Engineering, Vol. 13, No. 4, 2019

Bilgin, M.B., **MERAN, C.**, Canyurt, O.E., Optimization of strength of friction stir welded joints for AISI 430 ferritic stainless steels by genetic algorithm, Int J Adv Manuf Technol (2015) 77:2221–2233, DOI 10.1007/s00170-014-6590-0

Erol, S.S., **MERAN, C.**, Tribological Approach on Vibration and Electrical Current Response of Experimental Misalignment and Unbalance Failure Modes, Journal of the Balkan Tribological Association, Vol. 20, No 4, (2014), 559–575, WOS:000348254500005

Bilgin, M.B., **MERAN, C.**, Canyurt, O.E., Effect of Tool Angle on Friction Stir Weldability of AISI 430, Welding Journal, Volume 92, Number 1, January 2013, Pages 42-46

Canyurt, O.E., **MERAN, C.**, Fatigue Strength Estimation of Adhesively Bonded Tongue and Groove Joint of Thick Woven Composite Sandwich Structures using Genetic Algorithm Approach, The International Journal of Adhesion & Adhesives, 33(2012), 80–88

**MERAN, C.**, Yüksel, M., Usability of Boron as an Alloying Element in Gray Cast Iron Rollers and Its Effect to Abrasive Wear Behaviour, Advanced Materials Research, Vol 445, pp331-336, 2012

Bilgin, M.B., **MERAN, C.**, The Effect of Tool Rotational and Traverse Speed on Friction Stir Weldability of AISI 430 Ferritic Stainless Steels, Materials and Design, Volume 33, January 2012, Pages 376-383

**MERAN, C.**, Canyurt, O.E., The Effects of Tool Rotation Speed and Traverse Speed on Friction Stir Welding of AISI 304 Austenitic Stainless Steel, International Journal of Materials Research 2011/04, 420-428

Canyurt, O.E., **MERAN, C.**, Uslu, M., Strength Estimation of Adhesively Bonded Tongue and Groove Joint of Thick Composite Sandwich Structures Using Genetic Algorithm Approach, International Journal of Adhesion&Adhesives 30 (2010) 281–287

**MERAN, C.**, Canyurt, O.E., Friction Stir Welding of Austenitic Stainless Steels, Journal of Achievements in Materials and Manufacturing Engineering, Vol 43, Issue 1, p432-439, Nov 2010

**MERAN, C.**, Yuksel, M., König, R., Effect of Process Parameters on Joint Properties of Brass CuZn37 Welded with a Pulsed TIG Welding Power Source, *Welding and Cutting*, Vol 8, Issue 1, p36-44, 2009

**MERAN, C.**, Kovan, V., "Microstructures and Mechanical Properties of Friction Stir Welded Dissimilar Copper/Brass Joints", *Mat.-wiss. u. Werkstofftech.* 2008, 39, No. 8, 521-530, 2008

**MERAN, C.**, Kovan, V., Alptekin, A., "Friction Stir Welding of AISI 304 Austenitic Stainless Steel", *Mat.-wiss. u. Werkstofftech.* 2007, 38, No. 10, 829-835, 2007 (Doçentlik başvuru dosyamda bu yayın bulunmamaktadır)

**MERAN, C.**, Oztürk, O., Yüksel, M., "Examination of The Possibility of Recycling and Utilising Recycled Polyethylene and Polypropylene", *Materials and Design*, 29/3 (2008), 701-705, 2008

Canyurt, O.E., **MERAN, C.**, Uslu, M., The Effect of Design on Adhesive Joints of Thick Composite Sandwich Structures, *Journal of Achievements in Materials and Manufacturing Engineering*, Vol 31, Issue 2, Dec 2008, p301-305

**MERAN, C.**, Colak, M., Sürtünme Karıştırma Kaynağı İçin Takım Tutucu Tasarımı, *Journal of the Faculty of Engineering and Architecture of Gazi University*, Vol 23, Num 3, 671-679, Sep 2008

**MERAN, C.**, "Prediction of the optimized welding parameters for the joined brass plates using Genetic Algorithm", *Materials and Design*, 27(2006) 356-363, 2006

**MERAN, C.**, "The joint properties of brass plates by friction stir welding", *Materials and Design*, 27(2006), 719-726, 2006

**MERAN, C.**, Yüksel, M., Gülsöz, A., Şekercioğlu, T., "The Welding Problems of Thin Brass Plates and TIG Pulse Welding", *Science and Technology of Welding and Joining*, 9/2, 131-137, 2004

Şekercioğlu, T., Rende, H., Gülsöz, A., **MERAN, C.**, "The Effect of Surface Roughness on the Strength of Adhesively Bonded Cylindrical Components", *Journal of Materials Processing Technology*, 142/1, 82-86, 2003

Şekercioğlu, T., **MERAN, C.**, "The Effect Of Adherend on the Strength of Adhesively Bonded Cylindrical Components", *Materials & Design*, 25/2, 171-175, 2004

## Book

Yüksel, M., Meran, C., Materials Science, published by Chamber of Mechanical Engineering, Publication Number MMO/545/3, August 2021, Ankara, 569 page (in Turkish) (5<sup>th</sup> Edition, and sold about 5000)

## Teaching/Courses

### Undergraduate

- MENG 203 – Materials Science I (Semester 3, Winter) – AKTS 5
- MENG 202 – Materials Science II (Semester 4, Spring) - AKTS 5
- MENG 215 – Engineering Materials (Semester 5, Winter) - AKTS 5
- MENG 203 - Materials Science I (Erasmus Students, Winter Semester - in English) - AKTS 5
- MENG 202 - Materials Science II (Erasmus Students, Spring Semester - in English) - AKTS 5
- MENG 408 – Surface Treatments for Metals (Elective lecture, Spring) - AKTS 3
- MENG 411 – Maintenance Technique and Applications (Elective lecture, Winter) - AKTS 3

### Graduate

- MENG 545 - Maintenance Technique (Winter Semester)
- MENG 563 - Surface Technique (Spring Semester)

## Study Fields

- Materials Science and Technology
- Manufacturing Technologies
- Welding Technologies
- Heat Treatment
- Plastic Materials
- Corrosion
- Predictive Maintenance
- Surface Treatments
- Damage Analysis
- Non-Destructive Testing
- Mechanical Behaviour of Materials
- Machine Design

## Project and Industrial Consulting

### Supported by the National Agency

- **Project Executive**, 20000 Feet Altitude Rocket Development and Production, Pamukkale University Infrastructure Project, 2020-2021. (Winner of Teknofest 2020)
- **Project Executive**, Development of Rocket and Rocket Technologies, Rocket Engines, Development of Unmanned Autonomous Systems, Pamukkale University Infrastructure Project, 2019-2020. (Winner of Teknofest 2020)
- **Project Manager**, Investigation of the Friction Stir Weldability of Stainless Steels and the Parameters Affecting the Welding Quality, Tübitak 1001, (2007-2009)
- **Researcher**, Adhesion with Tongue and Groove Joining Technique in Composite Laminates Subject to Static and Dynamic Loading, Analysis of Parameters and Finding Optimum Design Parameters by Genetic Algorithm Method, Tübitak 1001, (2007-2009).

### Industrial Consulting

- **Academic Consultant** of Nexans Cable Company, R&D Center, April 2021- (continued)
- **Academic Consulting**, Dograk Metal "The Weldability of Stainless Steels and Prevention of Post-Weld Corrosion", January 2022- (continued)

### Project Based Consultancy in Industrial Projects

- **Academic Supervisor**, "Design and Manufacturing of Innovative Tandem Line for Twin & Earth Flat Cable Production", Uygar Machine Ind. And Trade Company, and Seval Cable Company, Tübitak Teydeb 1707 (Domestic), Nov 2021 - Continue
- **Academic Supervisor**, "Design and Production of a New Generation Die System That Can Make Diameter Changes Quickly During Cable Production", Uygar Machine Ind. And Trade Company, Tübitak Teydeb 1507, 2017- 2019.

- **Academic Supervisor**, "Single Arm Mobile Marble Cutting Machine Design and Prototype Manufacturing", Hidrobarsan Marble Machine Ind. And Trade Company, Tübitak Teydeb 1507, 2018-2019
- **Academic Supervisor**, "Design and Manufacturing of a New System for Hardening of the Calibration Surfaces of Rolling Rolls and Determination of Appropriate Heat Treatment Parameters", Ardokum Rolling Ind. And Trade Company, Tübitak Teydeb 1501, 2016-2018.
- **Academic Supervisor**, "Production of New Generation Cross Head System that Allows Fast Color Change in Cable Production", Uygar Machine Ind. And Trade Company, Tübitak Teydeb 1507, 2015-2017.

## **Master and Doctorate Thesis Supervisor**

### **Supervisor of Doctorate Thesis**

1. **Ali Tekin Güner**, PhD. Thesis, Investigation of Plasma Sprayed Ti and Ti-HAp Coatings on PEEK and Carbon Fiber Reinforced PEEK Implants, Pamukkale University Institute of Science and Technology, 2022, Denizli, Turkey, Prof.Dr. Cemal Meran (Supervisor)
2. **Emre Korkmaz**, PhD. Thesis, Determination Of Optimum Welding Parameters in Different Welding Methods of Hot Rolled Ferritic XPF800 Steel, Pamukkale University Institute of Science and Technology, 2022, Denizli, Turkey, Prof.Dr. Cemal Meran (Supervisor)
3. **Salih Seçkin Erol**, PhD. Thesis, Investigating the Factors Affecting on Predictive Maintenance of Dynamic Systems with Condition Based Test Setup Design, Pamukkale University Institute of Science and Technology, 2015, Denizli, Turkey, Prof.Dr. Cemal Meran (Supervisor)
4. **Mehmet Burak Bilgin**, PhD. Thesis, The Research of The Factors Affecting The Friction Stir Weldability of Ferritic Stainless Steels, Pamukkale University Institute of Science and Technology, 2011, Denizli, Turkey, Prof.Dr. Cemal Meran (Supervisor)

### **Supervisor of Master Thesis**

1. **Seyfettin Yekta Hüsünbeyi**, Master Thesis, Friction Stir Welding Application for High Strength Steels Used in Automotive Industry, Pamukkale University Institute of Science and Technology, 2021, Denizli, Turkey, Prof.Dr. Cemal Meran (Supervisor)
2. **Bilge Yılmaz**, Master Thesis, Investigation of Factors Affecting Mechanical Properties of Metals Joined with Epoxy-Based Adhesives, Pamukkale University Institute of Science and Technology, 2020, Denizli, Turkey, Prof.Dr. Cemal Meran (Supervisor)
3. **Feride Büket Kardes**, Master Thesis, Investigation of The Factors Affecting The Hot-Dip Galvanized Coating Properties in A Pilot Company, Pamukkale University Institute of Science and Technology, 2020, Denizli, Turkey, Prof.Dr. Cemal Meran (Supervisor)
4. **Emre Baydemir**, Master Thesis, Investigation of Microstructure and Mechanical Properties of AA6061 Matrix  $\text{Al}_2\text{O}_3$  Reinforced Composites Produced By Hot Pressing Method, Pamukkale University Institute of Science and Technology, 2018, Denizli, Turkey, Prof.Dr. Cemal Meran (Supervisor)
5. **Engin Sarıkaya**, Master Thesis, Investigation of the Effect of Different Surface Treatments on the Properties of Plastic Molding Materials, Pamukkale University Institute of Science and Technology, 2011, Denizli, Turkey, Assoc.Prof.Dr. Cemal Meran (Supervisor)
6. **Asil Gürcan Atik**, Master Thesis, Investigation of Factors Affecting Friction Stir Weldability of AISI 304L Austenitic Stainless Steel, Pamukkale University Institute of Science and Technology, 2009, Denizli, Turkey, Assoc.Prof.Dr. Cemal Meran (Supervisor)
7. **Artunc Alptekin**, Master Thesis, Investigation of the Applicability of Friction Stir Welding Method to Stainless Steels, Pamukkale University Institute of Science and Technology, 2006, Denizli, Turkey, Asst.Prof.Dr. Cemal Meran (Supervisor)

## Responsibility in International Activities

### International Conference

15<sup>th</sup> International Materials Symposium, IMSP'2014, Denizli, Turkey, 15-17 October 2014 – Chairman

14<sup>th</sup> International Materials Symposium, IMSP'2012, Denizli, Turkey, 10-12 October 2012 – Chairman

13<sup>th</sup> International Materials Symposium, IMSP'2010, Denizli, Turkey, 13-15 October 2010 – Chairman

12<sup>th</sup> International Materials Symposium, IMSP'2008, Denizli, Turkey, 15-17 October 2008 – Co-Chairman

### International Students Visitings

- Technical and Cultural Visiting of Silesian University of Technology Students to Pamukkale University, 15 April- 14 May 2015, Program Manager
- **Program Manager (Total 9 times), Technical and Cultural Visiting of Pamukkale University Students to Hochschule Regensburg University (Co-Organiser: Prof.Dr. Wolfram Wörner from OTH-Regensburg, Germany),**  
26 June – 03 July 2015,  
02 June – 10 June 2012,  
10 June – 12 June 2010,  
07 June – 14 June 2008,  
12 October – 20 October 2006,  
08 October – 16 October 2005,  
23 October – 31 October 2004  
05 October – 13 October 2002,  
19 May – 27 May 2001
- **Program Manager (Total 7 times), Short Time Workshop of Fachhochschule Regensburg Students with Pamukkale University Students in Denizli Industry, Turkey (Co-Organiser: Prof.Dr. Ulf Gollub from OTH-Regensburg, Germany),**  
23 October – 02 November 2008,  
15 October – 21 October 2007,  
09 November – 16 November 2003,  
15 October – 20 October 2001,  
13 April – 03 May 1998,  
25 April – 04 May 1997,  
12 May – 18 May 1996,

### Administrative Duties

- Pamukkale Teknokent Inc. Member of the Board of Directors (2021- present)
- Executive Board Member, TÜBİTAK METATEG (2019- present)
- Board Member, Pamukkale University Academic Evaluation (2017 – present)
- Editorial Board Member, Journal of Engineer and Machinery, (2016- present)

- Department Editor, Pamukkale University Journal of Engineering Sciences (PAJES) (2016-2018)
- Head of Mechanical Engineering Department Construction and Manufacturing, Pamukkale University. Eng. Fac. (2016-2019)
- Manager of Materials Research and Application of Pamukkale University, (2009-present)
- Commissioner, Ministry of Science, Industry and Technology R&D Centers (2008 – present)
- Chairman of the Board, Pamukkale University Alumni Association (2003-2005)
- Member of the Board of Directors of Denizli Branch of the Chamber of Mechanical Engineers (1998-2004)

## **Awards**

- 2020 Teknofest, High Altitude Rocket Competition Winner, Academic Advisor of Hazar Rocket Team
- 2020 Teknofest, The Best Design Winner, Academic Advisor of Hazar Rocket Team
- 2019 Teknofest, High Altitude Rocket Competition Winner, Academic Advisor of Hazar Rocket Team
- Winner of Prof. Fryderyk Staub Golden Owl in 2012, Silesian University of Technology (Poland)