

CURRICULUM VITAE**ERDEM TÜRKER ŞENALP****PERSONAL INFORMATION:**

Organisation Address: Middle East Technical University, Department of Electrical and Electronics Engineering, Inonu Bulvari, 06531, Balgat, Ankara, TURKEY.

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Year of Birth: 1977

Nationality: Turkish

Marital Status: Single

Foreign Languages: English (fluent), German (fair).

EDUCATION:

Ph D: Middle East Technical University, Department of Electrical and Electronics Engineering, Ankara, Turkey (progressing).

MS: Middle East Technical University, Department of Electrical and Electronics Engineering, Ankara, Turkey, 2001, (3.57 / 4.00).

BS: Middle East Technical University, Department of Electrical and Electronics Engineering, Ankara, Turkey, 1999, (3.46 / 4.00).

High School: Ulubatlı Hasan Anadolu Lisesi, Bursa, Turkey, 1995, (third degree).

TRAINING PROGRAMS:

Course: Turkish Accreditation Organisation, Training on TS EN ISO/IEC 17025 Standard, Ankara, Turkey (9 –10 March 2002).

Course: “The Abdus Salam International Centre for Theoretical Physics – School on Physics of the Equatorial Atmosphere”, Trieste, Italy (24 September – 5 October 2001).

Course: International School of Geophysics, 24th Course: Ionospheric Physics and Applications: Present and Future, Erice, Italy (24-29 September 2004).

Course: “The Abdus Salam International Centre for Theoretical Physics – International Advanced School on Space Weather”, Trieste, Italy (2–19 May 2006).

Workshop: “High Performance Computing Workshop”, Sun Microsystems & TOBB University of Economics & Technology, Ankara, Turkey (24–25 April 2007).

PROFESSIONAL CAREER:

METU Dept. of Electrical and Electronics Eng., Ankara, Turkey, 1999–2006
Research Assistant

Instructing Process Control Laboratory experiments on EE 407 “Process Control” and EE 408 “Process Instrumentation and Control” courses and departmental work.

Turkish State Planning Organisation (DPT) Project: “Neuro Fuzzy Systems Based HF Channel Characterisation and Selection”, METU, Dept. of Electrical and Electronics Eng., Ankara, Turkey, 1999–2004

Researcher

Modeling and research activities supervised by Prof. Dr. Ersin Tulunay.

EU COST 271 Project: “Effects of the Upper Atmosphere on Terrestrial and Earth-Space Communications”, METU, Dept. of Aerospace Eng. and Dept. of Electrical and Electronics Eng., Ankara, Turkey, 1999–2004

Researcher

Modeling and research activities supervised by Prof. Dr. Yurdanur Tulunay and Prof. Dr. Ersin Tulunay.

EU COST 296 Project: “Mitigation of Ionospheric Effects on Radio Systems”, TUBITAK, METU, Dept. of Aerospace Eng. and Dept. of Electrical and Electronics Eng., Ankara, Turkey, 2004–progressing

Researcher and Assistant Personel

Modeling and research activities supervised by Prof. Dr. Yurdanur Tulunay and Prof. Dr. Ersin Tulunay.

EU COST 724 Project: “Developing the Scientific Basis for Monitoring, Modelling and Predicting Space Weather”, TUBITAK, METU, Dept. of Aerospace Eng. and Dept. of Electrical and Electronics Eng., Ankara, Turkey, 2004–progressing

Researcher

Modeling and research activities supervised by Prof. Dr. Yurdanur Tulunay and Prof. Dr. Ersin Tulunay.

PROFESSIONAL EXPERIENCES:

Programming: MATLAB, Simulink, C++, Visual C++, Visual Java, Pascal,

Computer applications: WEB design and programming, EWB, MSOffice, Project, EA,

AI Studies: Neural Network based modeling of the Near-Earth Space processes, ionospheric modeling and variability studies for telecommunication applications.
Neural Network based character recognition on WEB.
Intelligent control, Industrial Automation Process Control.

Cascade Modeling: Cascade Modeling of Nonlinear Systems

SCIENTIFIC MEMBERSHIPS AND JOINT WORKS:

European Union Project COST 271: *“Effects of the Upper Atmosphere on Terrestrial and Earth-Space Communications”*, 1999 – 2004.

Turkish State Planning Organisation Project: *“Neuro Fuzzy Systems Based HF Channel Characterisation and Selection”*, 1999 – 2004.

Joint Work and Presentation: Forecasting Magnetopause Crossing Locations by Using Neural Networks, Applied Physics Laboratory, Johns Hopkins University, Laurel, USA; Center for Space Research, Massachusetts Institute of Technology, Boston, USA, 2-9 December 2000.

COST 271 Short-Term Scientific Mission: Working on the TEC data available at RAL and organizing the input data for the METU NN model under the supervision of Dr. Lj. Cander, Didcot, UK, 30 June – 7 July 2002.

European Union Project COST 724: *“Developing the Scientific Basis for Monitoring, Modelling and Predicting Space Weather”*, 2004 – progressing.

European Union Project COST 296: *“Mitigation of Ionospheric Effects on Radio Systems”*, 2004 – progressing.

TUBITAK-COST296 Short-Term Scientific Mission: Working on High Frequency (HF) Receiver System in the TUBITAK-MRC-ITI, Gebze, Kocaeli, Turkey, 10-13 March 2006.

TUBITAK-COST 296 Experiment: HF Channel Occupancy and Atmospheric Noise Measurements over the HF Band during the Solar Eclipse, Antalya, Turkey, 25-31 March 2006.

SCIENTIFIC PUBLICATIONS:

See Appendix: Scientific Publications.

AREAS OF INTEREST:

Sports: Basketball, swimming,
Books: Reading novels and scientific publications,
Dance: Group dances.
Music: Classical.

APPENDIX SCIENTIFIC PUBLICATIONS

Thesis:

1. 2001 Neural Network Based Forecasting For Telecommunications Via Ionosphere, MSc. Thesis, Middle East Technical University, Department of Electrical and Electronics Engineering, Ankara, Turkey, August 2001.
E.T. Şenalp

Papers in Journals:

1. 2001 An Attempt to Model the Influence of the Trough on HF Communication by Using Neural Networks, *Radio Science*, Vol. 36, No. 5, pp. 1027-1041, Publisher: American Geophysical Union, Washington, September – October 2001.
Y.Tulunay, E.Tulunay, E.T.Senalp
2. 2002 Two Solar Eclipses Observations in Turkey, *IL NUOVO CIMENTO, Nuovo Cimento Della Societa Italiana Di Fisica C-Geophysics and Space Physics*, 25 C, N.2, pp. 251-258, Publisher: Editrice Compositori Bologna, Siena, March – April 2002.
E. Tulunay, Y. Tulunay, C. Özkaptan, E.T. Senalp, M. Aydogdu, O. Ozcan, E. Guzel, A. Yesil, I. Unal, M. Canyilmaz, E. Ipekcioglu.
3. 2004 The Neural Network Technique-1: A General Exposition, *Advances in Space Research*, Publisher: *Elsevier*, Vol 33/6 pp. 983-987.
Y. Tulunay, E. Tulunay, E.T. Senalp.
4. 2004 The Neural Network Technique-2: An Ionospheric Example Illustrating Its Application, *Advances in Space Research*, Publisher: *Elsevier*, Vol 33/6 pp. 988-992.
Y. Tulunay, E. Tulunay, E.T. Senalp.
5. 2004 Karl Raver's Interest and Encouragement Regarding New Approaches to Ionospheric Modeling, *Advances in Radio Science*, Publisher: *Copernicus Gesellschaft mbH, U.R.S.I.*, Vol. 2, pp. 281-282.
Y. Tulunay, E. Tulunay, E.T. Senalp.
6. 2004 Development of algorithms and software for forecasting, nowcasting and variability of TEC, *Annals of Geophysics, Supplement to Vol. 47, N. 2/3*, pp. 1201-1214.
E.Tulunay, E.T. Senalp, Lj. R. Cander, Y. Tulunay, A.H. Bilge, E. Mizrahi, S.S. Kouris, N.Jakowski.
7. 2004 Forecasting GPS TEC Using the Neural Network Technique "A Further Demonstration", *Bulgarian Geophysical Journal, Geophysical Institute, Bulgarian Academy of Sciences*, Vol. 30, 1-4, pp.53-61, ISSN: 1311-753X.
E. Tulunay, Y. Tulunay, E.T. Senalp, Lj.R. Cander.
8. 2005 Forecasting magnetopause crossing locations by using Neural Networks, *Advances in Space Research*, Publisher: *Elsevier*, Vol 36/12 pp. 2378-2383.
Y. Tulunay, D.G. Sibeck, E.T. Senalp, E. Tulunay
9. 2006 Neural Networks and Cascade Modeling Technique in System Identification, *Artificial Intelligence and Neural Networks*, 14th Turkish Symposium, TAINN 2005, Izmir, Turkey, June 16-17, 2005, Revised Selected Papers, Series: Lecture Notes in Computer Science, Subseries: Lecture Notes in Artificial Intelligence, Vol. 3949 / 2006, Savaci, F. Acar (Ed.), Publisher: *Springer Berlin / Heidelberg*, ISBN: 3-540-36713-6, http://dx.doi.org/10.1007/11803089_10, pp.84-91.
E.T. Senalp, E. Tulunay, Y. Tulunay
10. 2006 Forecasting Total Electron Content Maps by Neural Network Technique, *Radio Science*, Vol. 41, No. 4, RS4016, Publisher: American Geophysical Union, Washington, <http://dx.doi.org/10.1029/2005RS003285>.
E.Tulunay, E.T.Senalp, S.M.Radicella, Y.Tulunay

Papers in International Workshops and Conference Proceedings

1. 2000 Neural Network Modeling of the Effect of the IMF Turning on the Variability of HF Propagation Medium, *AP 2000*; Millennium Conference on Antennas and Propagation, ICAP and JINA, p.132, 9-14 April 2000, Davos, Switzerland.
Y. Tulunay, E. Tulunay, E.T. Senalp, C. Özkaptan
2. 2000 An Attempt for the Modeling of Trough by Using Neural Networks, *COSPAR, CD-ROM*; 16-23 July, 2000, Warsaw, Poland
Y.Tulunay, E. Tulunay, E.T. Senalp
3. 2000 An Attempt For the Modeling of the Mid-Latitude Electron Density Trough on the Ionospheric Critical Frequencies by Using Neural Network, *Intercomparative Magnetosheath Studies*, 4-8 September 2000, Antalya, Turkey.
Y.Tulunay, E. Tulunay, E.T. Senalp
4. 2000 Neural Network Based Approach to Forecast Ionospheric Parameters, *SPECIAL Workshop*, abstract in <http://www.sgo.fi/SPECIAL/Contributions/abstracts2000.html>, 8-11 November 2000, Lindau, Germany
E. Tulunay, Y.Tulunay, E. T. Senalp
5. 2001 Development of Neural Net Based Models for Some Non-Linear Processes, The Fourth Pacific International Conference on Aerospace Science and Technology, *PICAST 4*, 21-23 May 2001, Kaohsiung, Taiwan.
Y.Tulunay, E.Tulunay, A.T. Kutay, E.T.Senalp
6. 2001 Forecasting the Total Electron Content by Neural Networks, *COST 271 "Effects of the Upper Atmosphere on Terrestrial and Earth-Space Communications" Workshop*, Ionospheric Modeling and Variability Studies for Telecommunications Applications, Book of Abstracts, p.47, CD of Proceedings, WG4_P006, 25-27 September 2001, Sopron, Hungary.
E. Tulunay, E.T. Senalp, Y. Tulunay
7. 2001 The Trough Based Neural Network Model of the foF2 Values, *COST 271 "Effects of the Upper Atmosphere on Terrestrial and Earth-Space Communications" Workshop*, Ionospheric Modeling and Variability Studies for Telecommunications Applications, Book of Abstracts, p.8, CD proceedings of the 1st COST 271 Workshop, 25-27 September 2001, Sopron, Hungary.
Y. Tulunay, E. Tulunay, E.T. Senalp
8. 2002 The Trough Based Neural Network Model of the foF2 Values, *SPECIAL II Workshop*, 3-6 January 2002, Cambridge, U.K.
Y. Tulunay, E. Tulunay, E.T. Senalp
9. 2002 Neural Network Based Approach to Forecast the Total Electron Content Values, *EGS 2002 Conference, 27th General Assembly of the European Geophysical Society*, CD of Abstracts, EGS02-A-00867, 21-26 April 2002, Nice, France.
E.T. Senalp, E. Tulunay, Y. Tulunay.
10. 2002 Forecasting GPS TEC During High Solar Activity by Neural Network Technique, *COST 271 "Effects of the Upper Atmosphere on Terrestrial and Earth-Space Communications" Workshop, Products for ITU-R and other Radiocommunication Applications*, 2nd COST271 Workshop Proceedings CD, 1-5 October 2002, Universidade do Algarve, Faro, Portugal.
E. Tulunay, E.T. Senalp, Lj. R. Cander, Y. Tulunay, L.Ciraolo
11. 2002 Neural Network Based Magnetopause Crossings Forecast, *COST 271 "Effects of the Upper Atmosphere on Terrestrial and Earth-Space Communications" Workshop, Products for ITU-R and other Radiocommunication Applications*, Poster, 1-5 October 2002, Universidade do Algarve, Faro, Portugal.
E.T. Senalp, D.G. Sibeck, Y. Tulunay, E.Tulunay
12. 2002 Neural Network Based Approach to Model Near Earth Space Processes, *34th COSPAR Scientific Assembly - The Second World Space Congress*, C4.3-0018-02, 10 - 19 October 2002, Houston, Texas, USA.
Y. Tulunay, E. Tulunay, E.T. Senalp
13. 2002 Forecasting Magnetopause Crossing Locations by Using Neural Networks, *34th COSPAR Scientific Assembly - The Second World Space Congress*, Poster, PSW1-C0.2-D0.1-E2.4-F0.1-PSRB2-0113-02, 10 - 19 October 2002, Houston, Texas, USA.
E.T. Senalp, D.G. Sibeck, Y. Tulunay, E. Tulunay

14. 2002 Development of Neural Network Based Models for Non-Linear Agro-Environment Systems, *Third International Symposium on Sustainable Agro-Environmental Systems: New Technologies & Applications*, 139, 26-29 October 2002, Cairo, Egypt.
E. Tulunay, T. Senalp, Y. Tulunay, Z. Aslan
15. 2003 Forecasting Regional Cloudness and Cloud Top Temperature By Neural Networks, *European Science Foundation Meeting: ESF Scientific Network on Space Weather and the Earth's Weather and Climate*, 20-23 February 2003, Frankfurt am Main, Germany, *EGS-AGU-EUG Joint Assembly 2003*, Poster: P0976, 06-11 April 2003, Nice, France, EAE03-A-13915, *Geophysical Research Abstracts*, Vol.5, 13915, 2003, European Geophysical Society, Lindau, Germany.
Y. Tulunay, S. Montes, E. Tulunay, E.T. Senalp, E. Akcan
16. 2003 Spatial Prediction of foF2 In Modeling The Influence Of Trough on HF Communication By Using Neural Networks, *COST 271 "Effects of the Upper Atmosphere on Terrestrial and Earth-Space Communications" Workshop: Significant results in COST271 Action: a review*, Poster, 23-27 September 2003, Spetses, Greece.
Y. Tulunay, A. Karpacsev, E. Tulunay, E.T. Senalp
17. 2003 Forecasting the Total Electron Content Values by Using Neural Networks and MAC Index, *COST 271 "Effects of the Upper Atmosphere on Terrestrial and Earth-Space Communications" Workshop: Significant results in COST271 Action: a review*, Poster, 23-27 September 2003, Spetses, Greece.
E. Tulunay, E.T. Senalp, P. Spalla, Y. Tulunay, G.D. Franceschi
18. 2004 Forecasting GPS TEC upto 24 Hours in Advance by Neural Network Technique, *European Geosciences Union General Assembly 2004*, ST14, Poster: EGU04-A-02260, 25 - 30 April 2004, Nice, France, *Geophysical Research Abstracts*, Vol. 6, 02260, 2004.
E. Tulunay, Y. Tulunay, E.T. Senalp, L. Cander.
19. 2004 Neural Network Based Forecasting with Adaptation Capability, *13th Turkish Symposium on Artificial Intelligence and Neural Networks, TAINN 2004*, pp. 585-592, 10-11 June 2004, Foca, Izmir, Turkey.
E.T. Senalp, E. Tulunay, Y. Tulunay.
20. 2004 Neural Network Application on Agro-Environment Problems, *Proceedings of the Workshop "Measuring and Computing Technologies on Agricultural Issue", AGROENVIRON 2004 Role of Multi-purpose Agriculture in Sustaining Global Environment*, pp. 27-36, Udine, Italy, 20-24 October 2004.
Y. Tulunay, E. Tulunay, E.T. Senalp, Z. Aslan
21. 2005 Neural Networks and Cascade Modeling Technique in System Identification, *14th Turkish Symposium on Artificial Intelligence and Neural Networks, TAINN 2005*, pp.286-293, 16-17 June 2005, Cesme, Izmir, Turkey.
E.T. Senalp, E. Tulunay, Y. Tulunay
22. 2005 Neural Network Modeling in Forecasting the Near Earth Space Parameters: Forecasting of the Solar Radio Fluxes, *COST 724: "Developing the scientific basis for monitoring, modeling and predicting Space Weather" Scientific Workshop*, Proceedings CD, 10-14 October 2005, Athens, Greece.
Y. Tulunay, M. Messerotti, E.T. Senalp, E. Tulunay, M. Molinaro, Y.I. Ozkok, T. Yapici, E. Altuntas, N. Cavus
23. 2006 Integration of METU-IFS Server to COST 724 Server (BIRA), *COST 724: "Developing the scientific basis for monitoring, modeling and predicting Space Weather" MCM and Scientific Workshop*, Proceedings CD, 27-30 March 2006, Antalya, Turkey.
E. Tulunay, D. Heynderickx, E.T. Senalp, M. Ozdemirci, Y.I. Ozkok, Y. Tulunay
24. 2006 COST296 WG2.2 Activity Report : Radio Propagation Measurements During the *29 March 2006 Total Eclipse Week*, 4th COST 296 MCM and WG meetings, 27-29 April 2006, Neustrelitz, Germany
E. Tulunay, E.M. Warrington, Y. Tulunay, Y. Bahadırlar, A.S. Türk, T. Yapıcı, E.T. Şenalp, E. Altuntaş, M.Ö. Sarı, O. Büyükpapaşcu
25. 2006 Forecasting Total Electron Content (TEC) for Constructing Maps Especially During High Solar Activity Periods, *International Advanced School on Space Weather*, CD-ROM, 2-19 May 2006, ICTP, Trieste, Italy.
E.T. Senalp, E. Tulunay, S.M. Radicella, Y. Tulunay
26. 2006 System Identification by using Cascade Modeling Technique with Bezier Curve Nonlinearity Representations, *15th Turkish Symposium on Artificial Intelligence and Neural Networks, TAINN 2006*, pp.75-82, 21-23 June 2006, Akyaka, Mugla, Turkey.
E.T. Senalp, E. Tulunay, Y. Tulunay

27. 2006 Propagation Related Measurements during Three Solar Eclipses in Turkey, IET 10th International Conference on Ionospheric Radio Systems & Techniques, IRST 2006, 18-21 July 2006, London, UK. E. Tulunay, E. M. Warrington, Y. Tulunay, Y. Bahadirlar, A.S. Türk, R. Çaputçu, T. Yapıcı , E.T. Şenalp.
28. 2006 Recent COST 296 Propagation Related Measurements During the 29th March 2006 Solar Total Eclipse in Antalya, Turkey, Second COST 296 Workshop and 5th MC Meeting, Radio Systems and Ionospheric Effects, Univ. Of Rennes 1, Rennes, France, 3-7 October 2006. E. Tulunay, Y. Tulunay, E.M. Warrington, Y. Bahadirlar, T. Yapici, E.T. Senalp, A.S. Turk
29. 2006 Neural Network Forecasting Of Schumann Resonances In The Near Earth Space, Third European Space Weather Week (ESWW3), 13-17 November 2006, Royal Library of Belgium, Brussels, Belgium. E. Tulunay, Y. Tulunay, E. Altuntas, E.T. Senalp, Y. Bahadirlar
30. 2007 International Heliophysical Year 2007 (IHY), Turkish National Activities, Poster, Official IHY Opening Ceremony, IHY Kick-off Event, 17-21 February 2007, Vien, Austria
Y. Tulunay, E. Tulunay, Z. Kocabas, E. Altuntas, T. Yapici, E.T. Senalp

Papers in National Workshops and Conference Proceedings:

1. 2002 Toplam Elektron Yoğunluğu Değerlerini Sinirsel Ağlar Kullanarak Öngöründe Bulunma, *URSI-TÜRKİYE'2002 BİLİMSEL KONGRESİ*, pp.407-410, ITÜ - İstanbul, 18-20 September 2002. E.T. Senalp, E. Tulunay, Y. Tulunay
2. 2002 Doğrusal Olmayan Bazı Süreçler İçin Sinirsel Ağ Tabanlı Yaklaşımlar, *URSI-TÜRKİYE'2002 BİLİMSEL KONGRESİ*, pp. 403-406, ITÜ - İstanbul, 18-20 September 2002. Y. Tulunay, E. Tulunay, A.T. Kutay, E.T. Senalp
3. 2006 Toplam Elektron Niceliği Öngörümünde Ardışık Benzeleme Tekniği, *3. URSI-TÜRKİYE'2006 Bilimsel Kongresi*, pp. 360-362, Hacettepe Üniversitesi, Ankara, 4-8 September 2006. E.T. Şenalp, E. Tulunay, Y. Tulunay
4. 2006 Yer İyonosfer Kovuk Değişimi'nin Schumann Rezonanslarına Dayalı İncelenmesi, *1. Ulusal Havacılık ve Uzay Konferansı*, ODTÜ, Ankara, 21-23 September 2006. E. Altuntaş, Y. Tulunay, E. Tulunay, E.T. Şenalp, Y. Bahadirlar
5. 2006 Ardışık Benzeleme Tekniğinin Kullanımı: Ters Çift Sarkaç, *TOK'06 Otomatik Kontrol Ulusal Toplantısı*, pp. 533-537, TOBB Ekonomi ve Teknoloji Üniversitesi, Ankara, 6-8 November 2006. E.T. Şenalp, E. Tulunay, Y. Tulunay