

**In Honor of Prof. Dr. Vedia DÖKMECİ**

**NEW APPROACHES in  
URBAN and REGIONAL  
PLANNING**

**Edited by**

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**NEW APPROACHES in**  
**URBAN and REGIONAL PLANNING**

In Honor of Prof. Dr. Vedia DÖKMECİ  
NEW APPROACHES in URBAN and REGIONAL PLANNING

**is organized by**

ITU Faculty of Architecture Urban and Regional Planning Department  
ITU Urban and Environmental Planning and Research Center

**sponsored by**

Istanbul Technical University Rectorate  
Istanbul Technical University, Faculty of Architecture  
Taskisla Education and Cultural Foundation

Dear Rector,

Dear Chairman,

Dear Guests,

Dear Professors and Assistants,

Today we are here for a conference in honor of a distinguished professor who makes a valuable contribution to both the department during the education process and students, makes national and international researches during the time that we do not realize how it passed at ITU, Faculty of Architecture, Department of Urban and Regional Planning.

I would like to congratulate dear Vedia Dökmeci for her productivity and efforts on raising students and providing academic collaborations during the period with full of research and education. As an extraordinary energetic and productive professor, she has made a great contribution to both national and international literature with a lot of articles on planning especially on location theory.

I thank to Prof. Dr. Nuran Zeren Gülersoy who has been organizing this international conference. I believe the value of all selected papers in the conference and their contributions to the science. I also thank to all my friends who have been taking a role on this organization.

And I thank to all participants for their contributions to this important and valuable conference and I wish a beneficial conference.

Prof. Dr. Cengiz GİRİTLİOĞLU

Dean of the Faculty of Architecture



## IN HONOUR OF PROF. DR. VEDİA DÖKMECİ

We have a great pleasure to organize the Conference and publish the book in Honor of Prof. Dr. Vedia DÖKMECİ, “New Approaches in Urban and Regional Planning” with the collaboration of ITU Urban and Regional Planning Department and ITU Urban and Environmental Planning and Research Center.

Prof. Dr. Vedia Dökmeçi is one of the distinguished professors of our Faculty. She was born in Istanbul in 1939. She graduated from the Faculty of Architecture at the Istanbul Technical University in June 1962. She received M.S.(1969) and Ph.D. (1972) from Columbia University in New York. She became associate professor in 1978 and professor in 1988 at the Urban and Regional Planning Department, Istanbul Technical University.

She gave undergraduate and graduate courses at the same department and supervised master and Ph.D. theses. In 2001, she established Real Estate Development Master Program at the Istanbul Technical University. She published more than forty papers at the international journals and presented more than sixty papers at the international conferences. She published one lecture book (Quantitative Methods in Urban Planning, ITU Foundation, 2005) and co-authored several books (Beyoglu, Turing, 1990; Istanbul Şehir Merkezinin Transformasyonu ve Büro Binaları, Literature, 1993; Istanbul Kapıları, Literature, 1996; İstanbul Gayrimenkul Pazarı, İstanbul Ticaret Odası, 2008; Yeniköy, Turing, 2009). Her research supported by international funds (Altrusa, 1970; Josephine von Karman Fellowship, 1971; William Kinnee Fellowship, 1971) and NATO(1987), TÜBİTAK(1979;1992) and DPT(1991) Research Funds. In 1999, she received TUBA (Turkish Scientific Academy) ‘Science Award’.

Between 1962-64, she practiced architecture in Lausanne, 1964-66 in Istanbul and 1972-74 in Chicago and in 1987, she won the first price from the Beyazıt Plaza Urban Design Competition with Architect Yaprak Karlıdağ.

We are grateful to all participants who have contributed to the conference and the book to create a common platform for discussing new planning approaches. The content of the conference and the book have been carefully prepared in order to provide participants and readers with a good overview of the latest planning approaches as well as a look at important and innovative recent and on going research projects. At the conference in two days 30 papers were presented in different aspects of urban and regional planning. Housing issues, urban quality, urban form, urban sprawl, conservation, transformation, sustainability, diversity, crime, migration, borders, real estate development and spatial analysis are the main themes of these selected papers. Participants of the conference felt that the authors of the papers-we thank cordially all of them-were enthusiastically offering their researches and results of theoretical and practical experiences as well as their problems and demands for solutions.

We are especially grateful to invited speakers, Prof. Dr. Geoffrey Hewings, Prof. Dr. Sigurd Grava, Prof. Dr. Abdullah Yavaş, Prof. Dr. Ayda Eraydın and Assoc. Prof. Dr. Zeynep Önder for their valuable contributions to the conference and the book with their research field.

We would like to thank Prof. Dr. Faruk Karadođan, Rector of İstanbul Technical University and Prof. Dr. Cengiz Giritliođlu, Dean of the Faculty of Architecture, for their valuable support during all stages of the conference. We also thank to Taşkışla Education and Cultural Foundation for their moral and financial support to the conference.

Finally, on behalf of İstanbul Technical University, Faculty of Architecture, Urban and Regional Planning Department and İstanbul Technical University Urban and Environmental Planning and Research Center, we would like to express our gratitude to Prof. Dr. Vedia Dökmeci as being one of the doyennes of Turkish Planning Academics.

Knowing and stressing that her influence is also world-wide, whether in research or teaching, few people achieve Dökmeci's eminence in her research field. And we believe the continuity of her energy and contributions in the future. Furthermore, this book including 25 selected papers is a product as the reflection of her productivity and contributions to the science.

Nuran Zeren GÜLERSOY

İstanbul Technical University  
Urban and Environmental Planning and Research Center

İstanbul Technical University  
Faculty of Architecture  
Urban and Regional Planning Department

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**CURRICULUM VITAE  
OF  
PROF. DR. VEDİA DÖKMECİ**



## **PROF. DR. VEDİA DÖKMECİ**

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### **EDUCATION**

Lycee Dipl. Erenkoy Kiz Lisesi, June 1957.

Dipl. Eng.-Arch. ITU Faculty of Architecture, June 1962.

M.S., Columbia University (New York) June 1969.

Ph.D., Columbia University (New York) Dec. 1972.

### **ACADEMIC POSITION**

Assoc. Prof. ITU May 1978

Prof. ITU May 1988.

### **AWARDS AND FELLOWSHIPS**

Altrusa Fellowsip, 1970; P.E.O International Peace Scholarship, 1971; Josephine von Karman Scholarship, 1971; William Kinnee Travelling Fellowship, 1971.

First Prize for Urban Design Competition for Beyazit Plaza (with Yaprak Karlıdağ) 1987.

First Prize from the Turkish Academy of Sciences (TUBA), 1999.

### **PROFESSIONAL ACTIVITIES**

Hospital Plan for Cook County (Senior Planner), Health and Hospitals Governing Commission of Cook County, Chicago, Illinois, 1973

Istanbul Health Facility Plan for the year 2000. Istanbul Health Department 1987 (with Necmettin Tanyolac).

Adakent Housing Project, 1986 (Consultant).

Atasehir Landscape Project, Consultant for Karlidag, 1989.

Istanbul Library System, 1990, Istanbul Cultural Department.

Beyazit Plaza Urban Design Project, Consultant for Karlidag, 1997.

### RESEARCH PROJECTS

Environmental Impact of Urbanization, TÜBİTAK, 1980.

Comparison of community satisfaction in old and modern neighborhoods in Istanbul, NATO Research Project 1987 (with J. Bardo).

Investigation of dynamism of Istanbul's CBD, DPT Research Project, 1991.

Housing Demand in Istanbul, TUBITAK Research project, 1992.

### INTERNATIONAL PUBLICATIONS

1. "An optimization model for a hierarchical spatial system," Regional Journal of Science, 13, 439-451.

2. "A dynamic model to plan optimal regional transportation networks," Proceedings of the International Conference on Transportation Research, Bruges, Belgium, 1973, 625-27.

3. "A cost-benefit analysis approach to plan regional transportation systems," Proceedings of the Intersociety Conference on Transportation, Denver, Colorado, 1973, 1-4.

4. "Optimization of central places in an industrial economy," The Annals of Regional Science, 9, 1975, 51-56.

5. "Planning ambulatory health care delivery systems" OMEGA, The International Journal of Management Science 4, 1976, 617-33.

6. "A quantitative model to plan regional health facilities," Management Science, 24, 1977 411-19.

7. "A multi-objective model for design of optimal urban structures," ITCC Review, 7, 1978, 23-28.

8. "A multi-objective model for regional planning of health facilities" Environment and Planning A, 11, 1979, 517-25.

9. "The Urbanization pattern in Turkey and its future development," in Urbanization Processes in Developing Countries, P. Nijkamp and M. Chatterjee (Eds.) Nijhoff Publishers, 1981.

10. "Optimum design of transportation networks," Bulletin of the Technical University of Istanbul, 36, 1983, 461-74.

11. "Optimum location of regional health facilities," Proceedings of Third International Conference on System Science in Health Care, World Health Organization, 1984.

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12. "Turkey: Distribution of cities and change overtime," Ekistics, 316-317, 1986, 13-17.
13. "Multi-plant location with respect to price-elastic demand," Environment and Planning A, 21, 1989, 1169-78.
14. "Multi-plant location with respect to uniform pricing," Annals of Regional Science, 23, 1989, 29-39.
15. "A brief note on second-order community satisfaction factors for two sub-communities in Istanbul, Turkey," Multivariate Experimental Clinical Research, 9, 1990, 145-149 (with J.W. Bardo).
16. "Optimum location of hierarchical production units with respect to price-elastic demand," Environment and Planning A, 23, 1991, 1671-78.
17. "Community satisfaction in two Turkish sub-communities: Further data on the significance of cultural differentiation," Genetic, Social and General Psychology Monographs, 116, 1991, 323-37 (with J.W. Bardo).
18. "Modernization, traditionalization and the changing structure of community satisfaction in two sub-communities in Istanbul, Turkey: Procrastination analysis," Genetic, Social and General Psychology Monographs, 118, 1992, 273-292 (with J.W. Bardo).
19. "Planning Istanbul's Public library system," Int. Information and Library Review, 24, 1992, 285-89 (with P.Korça).
20. "Multi-objective land-use planning model," J. of Urban Planning and Development, 119, 1, 1993, 15-23 (with G.Çağdaş and S. Tokcan).
21. "Tinbergen's hierarchy hypothesis revisited," Economic Systems Research, 5, 3, 1993, 243-51.
22. "Transformation of Istanbul from a monocentric to a polycentric city," European Planning Studies, 2, 2, 1994, 193-205 (with L. Berköz).
23. "Istanbul's Health Facility for the year 2000," Hospital Management International, 1994, 53-57 (with N. Tanyolaç).
24. "International telecommunications in Turkey," Telecommunications Policy, 20, 2, 1996, 125-30 (with L. Berköz).
25. "Optimum location of new centers in Istanbul", European Spatial Research and Policy, 3, 1, 1996, 79-87.
26. "Pera: A threatened historic European city within Istanbul," Ekistics 333, Nov.-Dec. 1988, 359-369 (with H. Çıracı).
27. "Socio-environmental determinants of social interactions in a squatter settlement in Istanbul," J. of Architectural and Planning Research, 14, 4, 1996, 329-337 (with N. Erdogan, G. Sağlamer and A. Dikbaş).
28. "Residential preferences in Istanbul," Habitat International, 20, 2, 1996, 241-251 (with L. Berköz, H. Levent, H. Yürekli and G. Çağdaş).

29. "The dynamics of Istanbul's City Center" in of A Glimpse Istanbul," Chamber of City Planners, Istanbul, 1996 (with L. Berköz).
30. "Evolution and Distribution of hotels in Istanbul," European Planning Studies, 7, 1, 1999, 99-109 (with N. Balta).
31. "From Westernization to Globalization: An Old District of Istanbul," Planning History, 21, 3, 1999, 13-23 (with H. Çiraci).
32. "Residential-Location Preferences According to Demographic Characteristics in Istanbul" Landscape and Urban Planning, 48/ 1-2, 2000, 45-53 (with L. Berköz).
33. "Spatial Analysis of Physicians' Offices with Respect to Population and Hospital Beds in Istanbul" European Planning Studies.10. 3, 2002, 406-412.
34. "External Factors, Housing Values, and Rents: Evidence from Survey Data" J. of Housing Research 14, 1, 2003, 83-99 (with Z. Önder and A. Yavaş).
35. "Spatial Analysis of Urban Pharmacies In Istanbul" European Planning Studies 12, 4, 2004, 585-594 (with E. Özus).
36. "The Impact of Public Perception of Earthquake Risk on Istanbul's Housing Market" Journal of Real Estate Literature 12, 2, 2004, 181-197(with Z. Önder and B. Keskin).
37. "Effects of revitalization in historical city center of Istanbul," International Real Estate Review 8, 1, 2005, 144-159 (with E. Özus).
38. "Informal Retailing in a Global Age: The Growth of Periodic Markets in Istanbul, 1980-2002," Cities 23, 1, 2006, 44-55 (with B. Yazgi and E. Özus).
39. "Retail potential of districts of Istanbul," Journal of Retail and Leisure Property 3, 4, 2006, 314-325 (with F. Terzi and H. Mutlu).
40. "Comparison of urban housing satisfaction in modern and traditional neighborhoods in Edirne, Turkey" Social Indicators Research 81, 2007, 127-148 (with Erdoğan, N., Akyol, A., Ataman, B.).
41. "Revitalization of the main street of a distinguished old neighborhood in Istanbul," European Planning Studies 15, 1, 2007, 153-166 (with U. Altunbaş, B. Yazgi).
42. "Spatial analysis of residential prices in Istanbul," European Planning Studies 15, 5, 2007, 707-721 (with E. Özus, V. Dökmeci, G. Kiroğlu, G. Eçdemir).
43. "Spatial analysis of library system and proposal for new libraries in Istanbul," European Planning Studies 15, 8, 2007, 1127-1137 (with H. Ayataç).
44. "Spatial distribution of shopping malls and analysis of their trade areas in Istanbul," European Planning Studies 16, 1, 2008, 143-156 (with Ertekin, O., Unlukara, T., Özus, E.).

**INTERNATIONAL CONFERENCE PAPERS**

1. "An algorithm for a class of multilevel facility-location problems," ORSA Meeting Atlantic City, Nov. 1972 (invited paper).
2. "An analytic planning approach to regional health facility systems," ORSA Meeting, Atlantic City, Nov. 1972 (invited paper).
3. "An optimization model for a hierarchical spatial system," North American Meeting of Regional Science Association, Philadelphia, Nov. 1972.
4. "Planning health care delivery systems: A cost-benefit analysis," TIMS Meeting, Tel Aviv, Israel, June 1973.
5. "A comparative model to plan optimal urban structures," ORSA Meeting, Boston, April 1974.
6. "A multi-objective land-use design model," North American Regional Science Association Meeting, Chicago, Nov. 1974.
7. "The impact of energy crisis upon urban distribution," ORSA Meeting, Boston 1975.
8. "Optimization of three dimensional building layout problems," ORSA Meeting 1975.
9. "Regional planning of ambulatory care facilities in Cook County," ORSA Meeting, 1975.
10. "Possible impacts of energy crisis on central place location," European Regional Science Association Meeting, Budapest, 1975.
11. "A model to locate new settlements in developing countries," European Regional Science Association Meeting, Krakow, Poland, 1977.
12. "Air pollution and optimum location of plants," ORSA Meeting, Atlanta, Nov. 1977.
13. "Changes of structures as a function of distance in Turkey," Fourth Advanced Studies Institute, Siegen, Germany, 1978.
14. "Analytical planning of multi-level facility systems," First World Science Congress, Harvard Univ. Cambridge, 1980.
15. "Urbanization pattern in Turkey and its future development," NATO Advanced Studies Institute in Regional Science, Susterberg, Holland, August 1980.
16. "Urban growth dynamics in Turkey," European Regional Science Association Meeting Groningen, Holland, August 1982.
17. "Optimum location of multi-level production units," Sixth Advanced Studies Institute in Regional Science, Bamberg, Germany, 1984.
18. "Multi-plant location with respect to price elastic demand," ORSA Meeting Atlanta, 1985.

19. "Product-cycle approach to optimum location of multi-plant firm," European Regional Science Association Meeting, Athena, August 1987.
20. "Community satisfaction at the International level," European Regional Science Association Meeting, Stockholm, Sweden, August 1988 (with J.W.Bardo).
21. "Urban Renewal of Pera: A European town in Istanbul," International Housing Conference, Berlin, 1987.
22. "Planning for office development in Istanbul and its periphery," 38th North American Meeting, International Regional Science Congress, New Orleans, 7-10 Nov. 1991 (with L.Berköz).
23. "Competitive location in Europe," European RSA Meeting, Lisbon, Portugal, 28-31 August 1991.
24. "Economic transformation of provinces in Turkey," 32th RSA Congress, Louvain-de- Neuve, Belgium, August 1992 (with L. Berköz).
25. "Development process of producer services, industrial sector and the second dynamics: Regional differences in Turkey," Second Annual Reser Conference, England 2-4 Eylül 1992.
26. "Competitive location with respect to multiple objectives: Implications for policy conflict analysis," IV. World Peace Science Congress, Timbergen Institute, Erasmus University, Rotterdam, 18-21 May, 1992.
27. "Recherche pour le plan de nouveaux centres commercieaux an Istanbul," International Conference for New Solutions, Istanbul, 23-25 Sept. 1992.
28. "Demand for Housing in Istanbul, XXI st IAHS World Housing Congress, Capetown, S. Africa, 10-14 May 1993 (invited paper).
29. "Estimation of Housing demand in Istanbul," 33th European RSA Congress, 24-27 August 1993, Moscow, Russia.
30. "International telecommunications of Turkey,"33th European RSA Congress, 24-27 August 1993, Moscow, Russia (with S. Tokcan).
31. "Some factors explaining residential land values in Istanbul," Int. Real Estate Conference, Connecticut, Mystic, 7-9 Oct., 1993 (invited paper).
32. "The optimum location of the library system in Istanbul," The Third International Conference on Systems Integration, Rio de Janeiro, Brazil (with P.Korça).
33. "Evaluation of Alternative Location of the Service and Manufacturing with Respect to Restructuring of Istanbul: Application of Lowry model" 8th Congress of AESOP, Istanbul, TURKEY 24-27 August 1994 (with F. Gezici).
34. "The transformation of neighborhoods in Istanbul," Societies in Transition: Social Change in the city and countryside, University of Edinburgh, 29-30 June 1994.
35. "Distribution and growth of periodic markets," 22-25 August 1995, Odense, Denmark European Regional Science Association Congress (with Ö. Güngör).

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36. "Distribution and growth of banks in Istanbul," 22-25 August 1995, Odense, Denmark European Regional Science Association Congress (with N.Evcil).
37. "Opinions on the European city in relation to the development in population and income," Regional Science Association, Zurich, 26-30 August 1996 (with G. Kristensen).
38. "Spatial analysis of energy consumption in Turkey," Regional Science Association Zurich, 26-30 August 1996.
39. "Spatial analysis of restaurants in Istanbul," European Regional Science Association Meeting, Rome, August 1997.
40. "Analysis of market areas of mega malls in Istanbul," European Regional Science Association Meeting, Vienna, August 1998.
41. "Analysis of hospital service areas in Istanbul," European Regional Science Meeting, Vienna, August 1998 (with Aykut Sadi)
42. "Spatial analysis of air passengers with respect to population and employment," European Regional Science Association Meeting, Vienna, August 1998.
43. "Competitive location and migration," 7th European Advanced Studies Institute in Regional Science, Munich, August 1998.
44. "Optimum location of disaster health centers in Istanbul," Earthquake Prognostics World Forum: Seismic safety of Big Cities, October 1998, Istanbul (with L. Berköz).
45. "Growth, distribution and rank stability of urban settlements in Turkey," 6th World Congress of the RSAI in Lugano, in May 2000 (with Seda Kundak).
46. "Multi-Level interaction and growth potential of large centers: A case study in Turkey", 6th World Congress of the RSAI in Lugano, in May 2000 (with Şence Türk).
47. "Ecologic analysis of Turkish provinces" 40th European Regional Science Conference in Barcelona, August 28 -Sept. 2, 2000 (with Ebru Kerimoğlu).
48. "External Factors, Housing Values and Rents: Evidence from Survey Data," 40th European Regional Science Conference in Barcelona in August 28-Sept.2, 2000 (with A. Yavaş).
49. "Empirical Analysis of Intercity Housing Price Differences in Turkey," ENHR-European Network for Housing Research, Int. Research Conference ENHR 2002: Housing Cultures Convergence and Diversity, 29 June-6 July 2002, Viyana (With B. Keskin).
50. "The Impact of Earthquake Risk on Istanbul's Housing Market," ARES Conference, April 6-9, 2003, Monterey, California (with B. Keskin).
51. "Determinants of Housing Prices in Turkey," ERES Conference, June 2-4, 2004, Milano (with B. Keskin and G. Kiroglu).
52. "Factors influencing housing prices in revitalized areas," CIB International Conference in March, 2006, METU, Ankara (with E. Özus).

53. "Spatial evaluation of urban form with respect to building density in Istanbul," CIB Conference in March, 2006, METU, Ankara (with B. Yazgi).
54. "Density analysis of urban forms in Istanbul," European Regional Science Association Meeting in Volos, Greece, August 30-Sept. 2, 2006 (with B. Yazgi).
55. "Regional migration of different urban forms in Istanbul," European Regional Science Association Meeting in Volos, Greece, August 30-Sept. 2, 2006 (with N. Evcil).
56. "Local house price index for Istanbul," ERES Conference, June 2007, London (with K. Arslanlı).
57. "Determinants of shopping center rents in Istanbul," ERES Conference, June 2007, London (with E. Demircioğlu).
58. "Development of an office rent prediction model for Istanbul," ERES Conference, June 2007, London (with D. Pekdemir).
59. "The impact of urban form on housing prices in Istanbul," ERES Conference, June 2007, London (with B. Yazgi).
60. "Spatial analysis of urban form in Istanbul," International SPACE SYNTAX Conference, June 2007, Istanbul (with B. Yazgi).
61. "Banking in Istanbul," European Regional Science Association Meeting in Paris, August 29-Sept. 2, 2007 (with U. Topçu).

#### BOOKS

1. Beyoğlu, Turing, Istanbul, 1990 (with H. Çıracı).
2. Transformation of Istanbul's CBD and Office Buildings, Literatur, Istanbul, 1993.
3. Residential Doors of Istanbul, Literatur, Istanbul, 1996 (with F. Akdaş and H. Yürekli).
4. Planlamada Sayısal Yöntemler, İTÜ Press, İstanbul, 2005.
5. İstanbul Gayrimenkul Pazarı, İstanbul Ticaret Odası, İstanbul (with F. Terzi), 2008.
6. Yeniköy, Çelik Gülersoy Vakfı Yayını, İstanbul, (with T.K. Koramaz), 2008.