# FACULTY OF ARCHITECTURE



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# RESEARCH CENTRE IN ARCHITECTURE AND URBAN DESIGN

# **GENERAL PRESENTATION**

The concept of sustainable urban development is nowadays a new dimension of the urban design. It involves in an integrated way different levels of the society in the planning of the new urban areas in connection with the historical protected zones. This tendency is part of the specific contemporary answers to the globalization challenges. The relation between the built heritage and the development of the cities make necessary a good knowledge of the urban history, of the society evolution and of all tendencies in the contemporary urban development.

Architectural form is another research topic considering the basic fundaments of today's man made environment in relation with nature. The possibilities to adapt already existing tendencies to contemporary phenomena related to technology and digital techniques, but also with ecology, are known as sustainable (self sustained) development. In this kind of approach form is both a generating source and final result, dominating architectural design.

# **OBJECTIVES**

The main objective of the research is to find the characteristics of the urban development and the particularities of the city zones and ensembles. Based on the analysis, another preoccupation is to propose viable solutions for the urban planning in the same time with the integration and the rehabilitation of the built heritage.

The study of the characteristics of the contemporary architecture and its development tendencies in order to propose suitable solutions for the design of the built environment is another main objective of the researchers.

There is also important to find how the contemporary architecture may be inserted in the existing natural and built sites and how could it to transform them in the benefit of their quality.

# MAIN RESEARCH FIELDS

History of urbanism and its applications in contemporary design.

*Keywords*: urban design, urbanism, settlement, city, evolution.

Urban analysis and planning. Urban studies for sustainable development.

*Keywords:* urban areas, teritory, sustainable development, urban network.

Integrated protection of the historical zones in a sustainable urban development.

*Keywords:* built urban areas, historical zones, sites and zones, rehabilitation.

Historical and critical evaluation of modern architecture.

*Keywords*: space, functionalism, modular, environment, typology.

Characteristics of the Architecture in the second half of the 20th century

Keywords: modernism, geometric shape, international style, rationalism.

➢ Forms, symbols and representation methods. *Keywords*: symbol, architectural form, geometry, art, alternative form.

# Researches in SUSTAINABLE TERRITORY DEVELOPMENT

### FIELD DESCRIPTION

The laboratory proposes an integrated approach on urban development through integrated urban development programs for the city as a whole and to define realistic development goals for the urban area and a vision for the treatment of the city. These principles integrate the three main converging directions of research: spatial development, territorial planning and sustainable development which permit a holistic approach, needing knowledge from the architectural, planning, constructions and construction materials, energetic and telecommunication, restoration, natural and constructed patrimony conservation, transportation, mobility. economic development. social hydromechanics, natural environment protection domain, etc.

This research field is important to create and provide high quality public spaces, to modernise the infrastructure network and to rise the energetic efficiency, to promote a cheap and efficient urban transportation system.

#### **ACTIVITIES**

Researches to give solutions for the complex needs of the urban system in order to propose the territorial urbanization respecting the ecological criteria.

Solutions to find new directions of acting at the urban level.

Realization of studies of territorial urbanization and different categories of urban plans.

Urban plans used by the local administration for the development of settlements and territory.

Territorial development plans (PATN, PATJ, PATZI,), general development plans (PUG), area development plans (PUZ), area rehabilitation, restoration and re-functioning.

Consultant and technical expertise in territorial development

Projects of landscape design.

#### **RESEARCH TEAM**

Prof.dr.arh. Teodor Octavian Gheorghiu Prof. dr. arh. Smaranda Bica Assoc. prof.dr.arh. Radu Radoslav Arh. Ana Branea Arh. Marius Gaman

#### RESULTS

#### BOOKS

- Radoslav, R., *Student Trends* nr. 1, 2007-2008, Ed. Politehnica, Timisoara, 2009, ISBN: 078-973-625-875-6.
- Radoslav, R., Isopescu, B., Piscoi, C., Rigler, R., Sabau, S., Sgircea, M., Spiridon A., Tomescu, A., Valean, P., *In Between*, Ed. Politehnica, Timisoara, 2009, ISBN: 978-973-626-939-5.

#### **PUBLISHED PAPERS**

- Radoslav, R., Bica, S., Objectiv Methodology for Environmental Planning – Case Study PATZI DHS (Areal Territorial Development Plan Deva Hunedoara Simeria –ROMANIA) in "Environmental Studies and Sustainability", Baltimore, USA, November, 2009, Proceedings of the 2nd WSEAS International Conference on "Urban Rehabilitation and Sustainability" (URES 09), Baltimore, 2009, ISBN 978-960-474-136-6, pp. 15-18.
- Radoslav, R., Branea, A., Gaman, M., *The Plan of the Deva - Simeria - Hunedoara Territory*, in "Urbanisn" – New Serie nr 2, An II, Bucharest, 2009, ISSN 1844, pp. 89.
- Gheorghiu, T., The Territorial Urbanization of Metropolitan Area respecting the Ecological Balance A Historical Perspective over the Process of Merging, Planning and Densification of Rural Settlements in the Banat - Crisana Regions, in "Scientific Bulletin of the "Politehnica" University – Civil Engineering

and Architecture", 54(68), 1, 2009, ed. Politehnica, Timisoara, 2009, ISSN 1224-6042, pp. 5-13.

- Radoslav, R., Anghel, A., Branea A., *Densification of Singular Housing Neighbourhoods - Case Study Timisoara*, in "Scientific Bulletin of the "Politehnica" University – Civil Engineering and Architecture", 54(68), 1, 2009, ed. Politehnica, Timisoara, 2009, ISSN 1224-6042, pp. 37-42.
- Toma, C., L., Urban Sprawl, in "Scientific Bulletin of the "Politehnica" University – Civil Engineering and Architecture", 54(68), 1, 2009, ed. Politehnica, Timisoara, 2009, ISSN 1224-6042, pp. 75-80.
- Andreescu, I, Gaivoronschi, V., Three squares or the dilemmas of the urban densification (case study Timişoara) in "Scientific Bulletin of the "Politehnica" University – Civil Engineering and Architecture", 54(68), 1, 2009, ed. Politehnica, Timisoara, 2009, ISSN 1224-6042, pp. 43-48.

#### **CONTRACTS**

1. Contract nr. 74/2009, Directory Study of the Sport an Loisir Facilities in the City of Timisoara.

Value: 15.000 RON

Beneficiary: S.C. PLANCONTROL S.R.L

2. Contract nr. 62/2009, Director Plan Concerning the Densification of the Urban Teritory in Timisoara.

Value: 316.000 RON

Beneficiary: The Council of Timisoara

#### **INTERNATIONAL PROGRAMMES**

1. EIE/07/202/S12.466282, project: *The inteligent Energy in Europe* 

Beneficiary: The European Union

Value: 26.000 EURO

Partners: Alsacia Region, KEA Klimaschutz und Baden-Wurtemberg, Energieagentur Provincia Autonoma di Trento, The Agency of Economic and Development of Timis, Fundation Social "Strachota" Wroclaw, Handwerkskammer Trier, Fundation "Labein" Spania, Energie Tirol, ADETIM.

2. COST: TU 0701, project: *Improving the quality of suburban buildin stock.* 

Beneficiary: EU RTD FRAMEWORK PROGRAMME

Partners: Faculty of Architecture - University of Ferrara, Ministry of Environment - Finlanda, Porto University - Portugalia, The Council of Timisoara

# **CONTACT PERSON**

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# Researches in HISTORY OF URBANISM AND ITS APPLICATIONS IN CONTEMPORARY DESIGN

#### FIELD DESCRIPTION

Historical researches of human settlements in order to detect the rules of urban development.

Studies of urban structures, typologic and morphologic elements, particularities of the urban evolution.

Studies to establish the main principles in urbanplanning.

Studies to detect the relation between the human needs and behaviour and the setting development.

Researches in urban evolution of cities, villages and territory.

Researches in architectural and urban history of the evolution of cities and villages in the vestern side of Romania.

Researches to detect the characteristics of the architecture in the western part of Romania during the three last centuries.

# ACTIVITIES

Archives investigations, research in the teritorry, analytical studies.

Inventory of the valuable architecture in Banat in order to propose methods of their integration in the contemporary life.

Solutions to increase the quality of urban projects. Studies for an inventory of protected areas.

Historical urban studies for the projects of urban planning.

# RESEARCH TEAM

Prof.dr.arh. Teodor Octavian Gheorghiu Ass.arh.Catalina Bocan Ass.arh. Cristian Blidariu Arh. Valentin Capotescu

#### RESULTS

# BOOKS

Gheorghiu, T.O., *Human Settlements – Theoretic Landmarcs and the Early History of the Middle Orient,* Art Press, Timisoara, 2009, ISBN 978-973-108-191-5.

# **PUBLISHED PAPERS**

1. Gheorghiu, T.O., *The Structure of the Settlements in the Banat-Arad Zone and the Vernacular Architecture,* in "Transsylvania Nostra" nr.2, Cluj, 2009, ISSN 1842-5631, pp.13-20.

- 2. Gheorghiu, T. O., The Romanian Town as Place of Innovation in the Architecture of the Church until the 19th Century, in "Historia Urbana", nr. XVII, Sibiu, 2009, ISSN 1221-650X, pp. 223-230.
- Bica. S., Rosiu, L., The Dramatic Increase of Car Traffic in and Arround Romanian Cities after 1990. The Case of Timisoara, in "Scientific Bulletin of the "Politehnica" University – Civil Engineering and Architecture", 54(68), 1, 2009, ed. Politehnica, Timisoara, 2009, ISSN 1224-6042, pp. 29-36.
- Radoslav, R., Demetrescu, B., Branea, A., *Revitalizing Apartment Buildings Neibourhoods* (Case Study Timisoara), in "Scientific Bulletin of the "Politehnica" University -Civil Engineering and Architecture", 54(68), 1, 2009, ed. Politehnica, Timisoara, 2009, ISSN 1224-6042, pp. 23-28.

# CONTRACTS

1. Contract nr. 149/2008, *Historical and Urban* Study of the Town of Ciacova in order to Delimitate and Define the Historical Centre

Value in 2009:	35.402,50 RON

Beneficiary: The Council of Ciacova

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# Researches in HISTORICAL MONUMENTS AND PROTECTION OF THE BUILT HERITAGE

# FIELD DESCRIPTION

Study of the buildings and urban zones with a high architectural and historical value.

Detect the best forms and possibilities of protection. Search for historical monuments and sites in the county of Banat.

Colaboration with institutions and organisations involved in the protection of the built heritage. Study of civil, industrial and vernacular buildings with high architectural and historical value.

# ACTIVITIES

Archives of information about the buildings and zones of architectural interest – Inventory of historical monuments

Analyse of the damages produced by different causes to historical monuments and sites.

Proposals of rehabilitation and prevention.

Projects of restoration and conservation.

Historical studies for the Territorial development plans (PATN, PATJ, PATZI,), general development plans (PUG), area development plans (PUZ) which contain protected areas.

Expertise of differents types of damages asked in restoration projects, projects of restoration and conservation.

# **RESEARCH TEAM**

Prof.dr.arh. Smaranda Bica Assoc.prof.dr.arh. Liliana Roșiu Ass.arh. Alfred Schwalie Arh. Doina Antoniuc

# RESULTS

#### **PUBLISHED PAPERS**

1. Bica Smaranda, Roșiu Liliana, *Cities of Mediterranean Type on the Black Sea Coast in Dobrudja*, CITTAM Conference "L'Identita culturale del paesaggio mediterraneo. Risorse, processi e strategie sostenabili", Napoli, 13 may 2009, Conference Papers, ISBN 88-6026-099-X, pp. 29-35.

2. Rosiu Liliana, Bica S., *The Archaeological Heritage of the Romanian Black Sea Coast in the Contemporary Environment*, CITTAM Conference ,,L'Identita culturale del paesaggio mediterraneo. Risorse, processi e strategie sostenabili", Napoli, 13 may 2009, Conference Papers, ISBN 88-6026-099-X, pp. 535-541.

3. Roșiu, L., *Eglises du Banat dans les trois derniers siecles - aspects de typologie et d'influence dans la structuration urbaine*, in "Historia Urbana", nr. XVII, Sibiu, 2009, ISBN 1221-650X, pp. 211-221.

4. Rosiu, L., *Influences of the German Typology on the Urban Dwelling in the Banat Zone*, Tusnad Conference Series on Theoretical and Practical Issues on Built Heritage Conservation, Rimetea, 19-24 mai "Vernacular Architecture in Multicultural Regions", Rimetea, 2009, ISBN 1843-7109, pp. 133-142.

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# **Researches in HISTORICAL AND CRITICAL** EVALUATION OF MODERN ARCHITECTURE

# FIELD DESCRIPTION

Study of the sources of modern architecture in relationship with a critical overview of the contemporary urban planing.

Search of the characteristics and qualities of the contemporary architecture and its development tendencies and its relation with the built environment.

Study of the contemporary tendencies of the urban architecture.

# **ACTIVITIES**

Theoretical contributions to the theory of architecture and in the analysis of the contemporary architectural development. Projects of architecture.

#### **RESEARCH TEAM**

Assoc. prof. dr. arch. Vlad Gaivoronschi Assoc. prof. dr. arch. Ioan Andreescu Assist. Arch. Marius Miclăuş Assist. Arch. Marius Harta Assist. Arh. Romeo Szorad

#### RESULTS

# BOOKS

- 1. Andreescu, I., Gaivoronschi, V., *Identiy in Urban Space*, Arhitext Design Fundation, 2009, ISBN 978-973-85482-9-9.
- Gaivoronschi, V., Graef, R., West University of Timisoara, Architect Hans Fackelmann, Ed. Politehnica, Timisoara, 2009, ISBN 978-973-626-939-5.

#### **PUBLISHED PAPERS**

- Cristutiu, M., Nagy, Imperfection sensitivity analysis of pitched roof portal frames, 7-th Euromech-Solid Mechanics Conference, J. Ambrosio et. All (eds.), Lisbon, Portugal, 7-11 september, ESMC 2009, Proceedings of the 7th Euromech-Solid Mechanics Conference, pp. 691-698.
- Andreescu I., "ALMERE STAD- Artificial Landscape and Urban Architecture", in Arhitext, nr. 01-02, 2009, ISSN 1224-886X, pp.116-125.
- 3. Toma, C., *"Clothe"*, in Arhitext, 03 (181), 2009, ISSN 1224-886X, pp. 104-109.
- Gaivoronschi, V., *"Visions, Afects and other Aspects*" in Arhitext, nr. 08-09 (198-199), 2009, ISSN 1224-886X, pp. 98-105.

- Andreescu, I., *"About Environment*", in Arhitext, nr. 08-09 (198-199), 2009, ISSN 1224-886X, pp. 80-91.
- 6. Miclaus, M., "Architecture. Profile M.M.", in IGLOO, nr. 94, 2009, ISSN 1583-7688, pp. 38-46.
- Toma, C., Baldea, M, *Dynamic Wall*, in Arhitext, 06(184), 2009, ISSN 1224-886X, pp. 105-112.
- 8. Toma, C., Baldea, M., *White Wall*, in Arhitectura, 65, 2009, ISSN 1220-3254, pp. 82-86.
- Gaivoronschi, V., *City Business Centre*, in "Scientific Bulletin of the "Politehnica" University–Civil Engineering and Architecture", 54 (68), 1, 2009, ed. Politehnica, Timisoara, 2008, ISSN 1224-6042, pp. 49-60.
- Andreescu, I., *The Landscape From the Sacred Garden to the Urban Project*, in Arhitext, nr12, 2009, ISSN 1224-886X, pp. 79-89.
- Margulescu, A., Miclaus, M., An Urban Hospital, in Arhitectura, nr. 80, 2009, ISSN 1220-3254, pp. 72-76.

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# Researches in FORMS, SYMBOLS AND REPRESENTATION METHODS

#### FIELD DESCRIPTION

Study of the relationship between the architectural form and its structural and functional determination.

Search to detect the expressive qualities of the architectural form.

# ACTIVITIES

Theoretical contributions in the design of urban environment.

Application in architecture, urban and interior design. Projects of architecture, interior design

#### **RESEARCH TEAM**

Prof. dr. arh. Cristian Dumitrescu Assist.arh. Claudiu Silvăşan Assist.arh. Erica Dudas Assist. dr. Bogdan Oprescu Assist. arh. Razvan Oprita

#### RESULTS

#### BOOKS

#### **PUBLISHED PAPERS**

- Dumitrescu, C., *The Networkand the Geometrical Planes Equipartitions*, in "Scientific Bulletin of the "Politehnica" University–Civil Engineering and Architecture", 54 (68), 1, 2009, ed. Politehnica, Timisoara, 2009, ISSN 1224-6042, pp. 81-93.
- Dumitrescu, C., Blidariu, C., A Study Regarding the Protection of the Built Funf in the Fortress District and its Revitalization Based on the Closure of the Traffic Ring II, in "Scientific Bulletin of the "Politehnica" University–Civil Engineering and Architecture", 54(68), 1, 2009, ed. Politehnica, Timisoara, 2009, ISSN 1224-6042, pp. 13-22.
- Havasi, B., Szitar, M., Demand and Offer, Morphology and Image, in "Scientific Bulletin of the "Politehnica" University – Civil Engineering and Architecture", 54(68), 1, 2009, ed. Politehnica, Timisoara, 2009, ISSN 1224-6042, pp. 69-74.

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