
# Architectus

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# Presentations

## *Sustainable development of residential environment*


***Architectural workshop of Scientific School Habitat'10. Faculty of Architecture of Wrocław University of Technology***

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On 21–23 October 2010 at the Faculty of Architecture of Wrocław University of Technology there was an Architectural Workshop devoted to Sustainable Habitats organized by the Scientific School Habitat which operates at the Institute of Residential Architecture Designing. The workshop was preceded by the scientific conference: Habitat – sustainable development of residential environment, which is part of the works of the International Discussion Forum: Man, Space, Culture.

The founder of the Scientific School Habitat and the initiator of Architectural Workshops which have been organized periodically since 1987 is Professor Zbigniew Bać. The whole event is under the scientific supervision of Ada Kwiatkowska PhD. Architectural Workshop is always an interdisciplinary event, therefore, the final elaborations are enriched with comprehensive knowledge of architects, constructors, sociologists and psychologists.

This year's workshop was at attempt to define the basic notions connected with the concept of spatial order and sustainable development of habitats, determination of influence of sustainable development on the improvement of quality of life in habitats, promotion of democratic procedures and participation of local communities in the formation of residential environment as well as definition of principles of residential architecture designing in the aspect of issues connected with the protection of natural environment resources and cultural heritage of a place. Special guests were Professor Jan Gehl, author of the book: *Life between buildings* and Maria Folta PhD, author of the book: *Negotiating and mediation in life*.

The effect of three days' work of four design groups were workshop studies which presented SUSTAINABLE HABITATS in various ideological, functional and spatial aspects. On the provided situational maps of the chosen regions of Wrocław there are elaborations of variants of land development as well as individual interpretations of design solutions which ensure sustainable residential environment for the future residents of the habitats.

Topics of the architectural concepts are the following: "dotleniacz" (Additional Oxygen), "maszroom" (Mushroom), "zielokąt" (Green Corner) and "przedmieście w mieście" (Suburb in City).

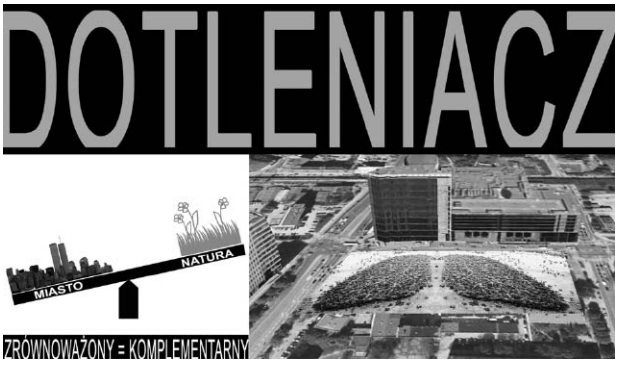


Fig. 1. Habitat DOTLENIACZ (ADDITIONAL OXYGEN HABITAT) – idea foundation,

Il. 1. Habitat DOTLENIACZ – idea założenia,

## *Habitat Dotleniacz*

**Authors:** *Ewa Cisek PhD, Tomasz Głowacki PhD, Igor Kaźmierczak MA Eng, students Elżbieta Głogowska, Anna Krzysztoń, Monika Tokarska, Dorota Waszak, Bartłomiej Zasiński.* (Fig. 1,2)

This sustainable habitat was proposed in the heart of Wrocław, in the close vicinity of the shopping centre "Arkady Wrocławskie" and the office block "Globis", which is a part of the town with very scarce green areas. The form of the designed structure was complementary in that it compensated the lack of green areas and fresh air and served as 'a lung' for the city; it also compensated the shortage of recreation areas and *sacrum* space and it counterbalanced the commercialized neighbourhood. The natural border of the Habitat is made up of biologically active planes, taking the form of a 35-metre cuboid with regularly planned vertical pedestrian circulation units.


Fig. 2. Authors of monograph 'Habitat DOTLENIACZ (ADDITIONAL OXYGEN habitat)': Ewa Cisek PhD, Tomasz Głowacki PhD, Igor Kaźmierczak MA Eng, students Elżbieta Głogowska, Anna Krzysztoń, Monika Tokarska, Dorota Waszak, Bartłomiej Zasiński (photo: A. Krzysztoń)

Il. 2. Autorzy opracowania Habitat DOTLENIACZ: dr inż. arch Ewa Cisek, dr inż. arch Tomasz Głowacki, mgr inż. arch Igor Kaźmierczak, stud. Elżbieta Głogowska, studenci Anna Krzysztoń, Monika Tokarska, Dorota Waszak, Bartłomiej Zasiński (fot. A. Krzysztoń)

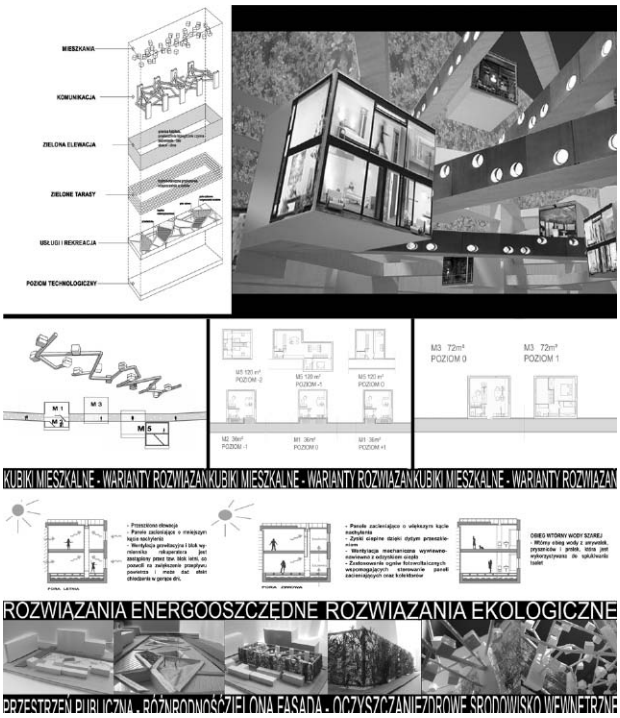


Fig. 3. Habitat DOTLENIACZ (ADDITIONAL OXYGEN habitat) – functional and spatial concept

Il. 3. Habitat DOTLENIACZ – rozwiązania funkcjonalno – przestrzenne Habitatu

Inside, at various heights, dwelling units are suspended in the shape of modulated cubes. They are fitted into place by means of connectors attached to massive stairwell shafts accessible through passageways. The ground floor has been designed as containing a water pool, service facilities and reed fields, while the basement accommodates the technical infrastructure. The project utilizes ecological and energy-saving solutions (Fig. 3).

## *Habitat Maszroom*

***Authors:*** *Paweł Horn PhD, Michał Pelczarski PhD, Jerzy Łątka MSc , students Marta Rusnak, Kamil Bocian, Jolanta Boska, Magdalena Gęgotek, Piotr Jarczyński.* (Fig. 4, 5)

The designed Habitat occupies an area between the streets: Powstańców Śląskich, Swobodna and Komandorska. This is strictly the centre of the city with big-city housing. The concept of this entire arrangement incorporates the idea of shaping safe space not only by architecture but also by its users. Eight dwelling mushroom-shaped towers of various sizes have been proposed. Such an approach allows us maximum reduction of contact surface between the building and the ground, which leaves more space for biologically active areas of the site. The form of mushroom caps enables to use them as umbrellas protecting against changeable weather conditions, provides the necessary space for photovoltaic solar panels and allows collection of grey water (obtained from melted snow) for use in sanitary systems. The dwelling compounds, in the form of sphere-shaped fruits, are suspended from the caps by means of bands. The compounds are built in an organic-like fashion. The core element splits into separate sections accommodating the living quarters,

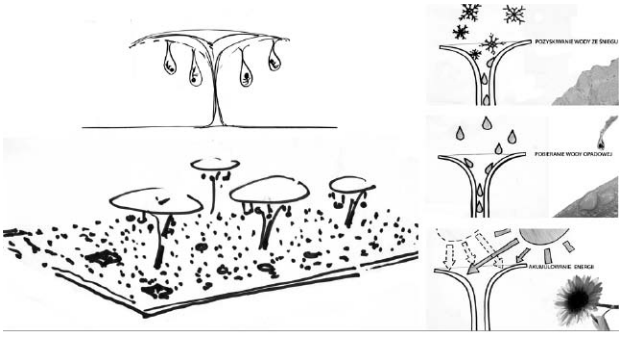

Fig. 4. Habitat MASZROOM (MUSHROOM habitat) – idea foundation,

Il. 4. Habitat MASZROOM – idea założenia

Fig. 5. Authors of monograph 'Habitat MASZROOM (MUSHROOM habitat): Paweł Horn PhD, Michał Pelczarski PhD, Jerzy Łątka MSc Eng, students: Marta Rusnak, Kamil Bocian, Jolanta Boska, Magdalena Gęgotek, Piotr Jarczyński (photo: M. Rusnak)

Il. 5. Autorzy opracowania Habitat MASZROOM: dr inż. arch Paweł Horn, dr inż. Michał Pelczarski, mgr inż. arch Jerzy Łątka, studenci: Marta Rusnak, Bocian Kamil, Jolanta Boska, Magdalena Gęgotek, Piotr Jarczyński (fot. M. Rusnak)

offices, technical and integration rooms. The idea of spot mushroom towers has allowed us to create a very strong visual and spatial concept retaining the big-city character combined with sustainable development features. Fig. 6)

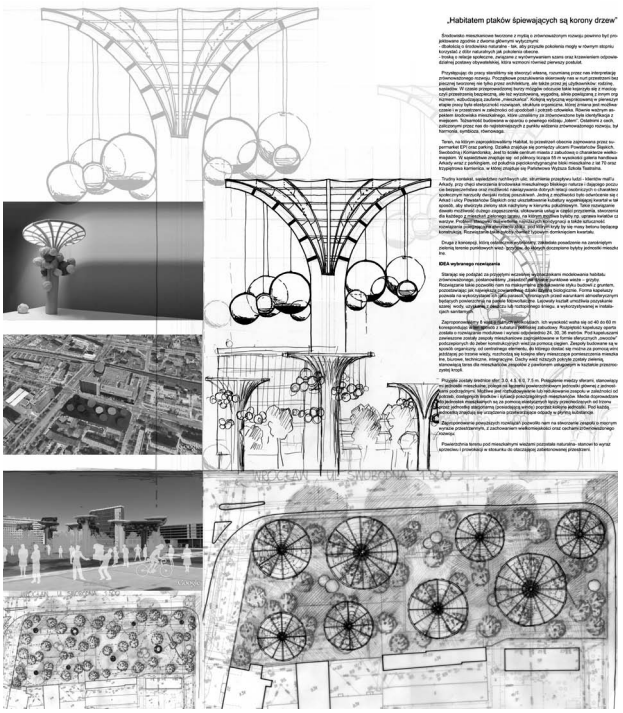


Fig. 6. Habitat MASZROOM (MUSHROOM habitat)- functional and spatial concept

Il. 6. Habitat MASZROOM – rozwiązania funkcjonalno-przestrzenne Habitatu

## *Habitat Zielokąt*

***Authors:*** *Jan Zamasz PhD, Wojciech Januszewski PhD., Justyna Kleszcz MSc Eng, students: Patryk Antczak, Elżbieta Karkoszka, Judyta Rybka, Martyna Stasiniewska.* (Fig. 7, 8)

The workshop project presents a land development plan for the area located near Księcia Witolda Street, in the vicinity of two Odra River canals.

A building development plan has been proposed, whose main idea was to spatially join the two river banks leaving the maximum area of biologically-active zone, while fully utilising the plot and pro-ecological installation solutions. The final shape of the idea takes the form of a modified quarter plan with characteristic triangular geometry. Each wing of the building is elevated above the

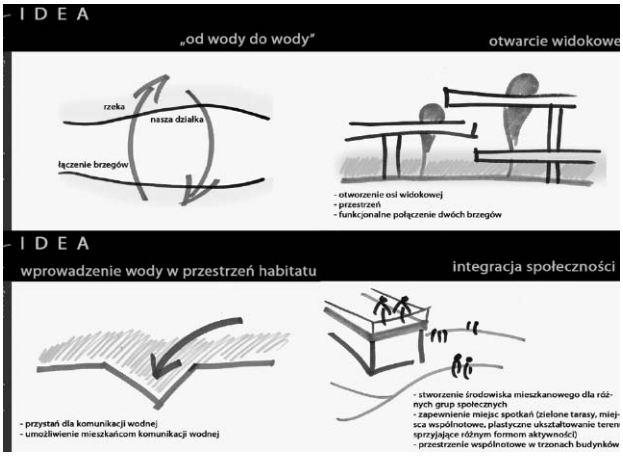


Fig. 7. Habitat ZIELOKĄT (GREEN CORNER habitat) – idea foundation

Il. 7. Habitat ZIELOKĄT – idea założenia

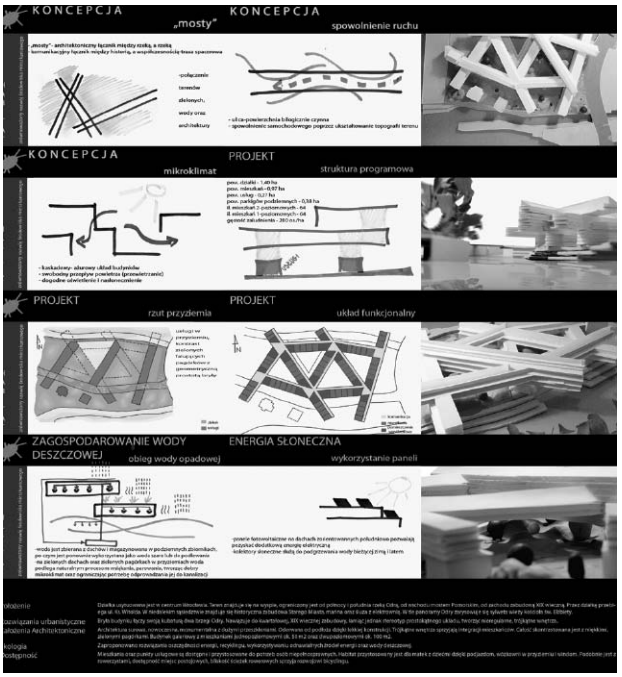


Fig. 9. Habitat ZIELOKĄT (GREEN CORNER habitat) – functional and spatial concept

Il. 9. Habitat ZIELOKĄT – rozwiązania funkcjonalno-przestrzenne Habitatu

Fig. 8. Authors of monograph 'Habitat ZIELOKĄT (GREEN CORNER habitat)': Jan Zamasz PhD, Wojciech Januszewski PhD, Justyna Kleszcz MSc Eng, students: Patryk Antczak, Elżbieta Karkoszka, Judyta Rybka, Martyna Stasiniewska (photo: P. Antczak)

Il. 8. Autorzy opracowania Habitat ZIELOKĄT: dr inż. arch Jan Zamasz, dr inż. arch Wojciech Januszewski, mgr inż. arch. Justyna Kleszcz, studenci: Patryk Antczak, Elżbieta Karkoszka, Judyta Rybka, Martyna Stasiniewska (fot. P. Antczak)

ground level, which frees the space underneath and provides a deep perspective insight. Created urban interiors - filled with soft terrain forms and greenery – constitute public space for the inhabitants. The programme structure comprises living quarters of various sizes: both single and two- storey, studio type dwellings, workrooms, rental spaces and ground-level basic service facilities (Il. 9).

## *Habitat Przedmieście w Mieście*

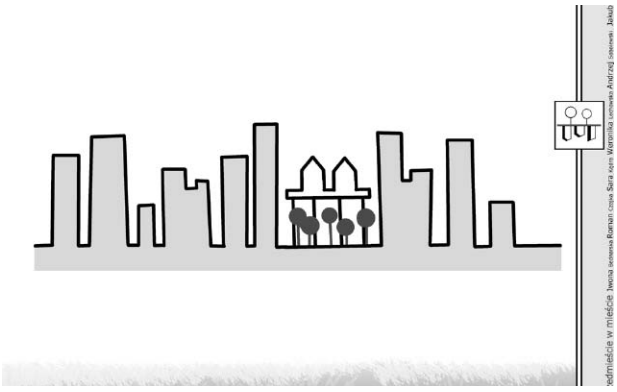

Fig. 10. Habitat PRZEDMIEŚCIE W MIEŚCIE (SUBURB IN THE CITY habitat)- idea foundation

Il.10. Habitat PRZEDMIEŚCIE W MIEŚCIE – idea założenia


Fig. 11. Authors of monograph 'Habitat PRZEDMIEŚCIE W MIEŚCIE': Roman Czajka PhD, Andrzej Sobolewski PhD, students: Iwona Bednarska, Sara Kędra, Weronika Lachowska, Jakub Szkiłądź, (photo: I.Bednarska)

Il. 11. Autorzy opracowania Habitat PRZEDMIEŚCIE W MIEŚCIE: dr inż. arch Roman Czajka, dr inż. arch Andrzej Sobolewski, studenci: Iwona Bednarska, Sara Kędra, Weronika Lachowska, Jakub Szkiłądź (fot. I.Bednarska)

***Authors:*** *Roman Czajka PhD, Andrzej Sobolewski PhD, students: Iwona Bednarska, Sara Kędra, Weronika Lechowska, Jakub Szkiłądź.* (Fig.10, 11)

The team-selected plot is located in the centre of Wrocław between the streets: Swobodna, Komandorska and Powstańców Śląskich.

With regard to urban issues, the spatial concept of the habitat was based on the idea of reclaiming green terrains and‚superimposing' on them perforated platforms with densely arranged dwellings and service facilities (mostly in the terraced form). The desired effect has been achieved by elevating the dwelling units onto spatial grillages to the level of 4th/5th storey, available through multifunctional (communication, media, turbines, rainwater tanks) supports of the habitat. The difference in height and distance between the levels not only provides extra lighting for the greenery on the ground level and the service

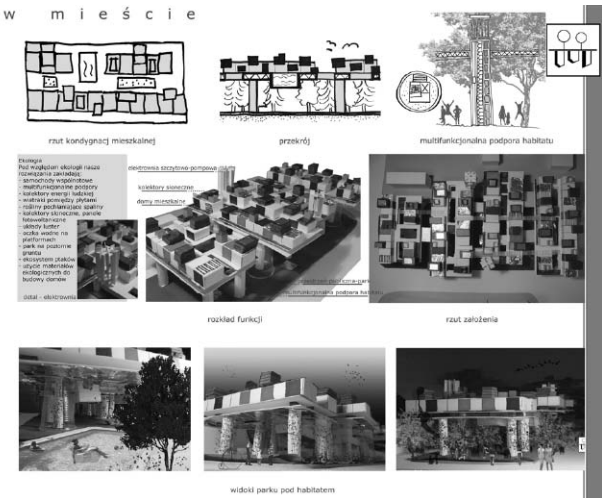


Fig. 12. Habitat PRZEDMIEŚCIE W MIEŚCIE – functional and spatial

Il. 12 Habitat PRZEDMIEŚCIE W MIEŚCIE – rozwiązania funkcjonalno-przestrzenne Habitatu

facilities suspended underneath the slabs but also improves air circulation. The achieved result resembles a negative copy of the city - introducing elements of suburban atmosphere into the city centre with ecological factor playing an important role. The habitat is fully self-contained.(Fig. 12)

Each of the demonstrated projects represents very interesting study material, giving incentive for further spatial exploration. Apart from varied conceptual ideas, more universal aspects of sustainable development of residential environment proved very important. These values, together with the richness of the presented solutions, give a complete and harmonious picture of a habitat whose individual elements create a consistent and complementary entirety. The integrity of the system is achieved in different proportions by: utilized technology, selection of shapes, functional and spatial arrangement of objects, natural forms of landscape and lifestyle organization of the inhabitants.

## *„Rozwój zrównoważony środowiska mieszkaniowego" – Warsztaty architektoniczne szkoły naukowej habitat'10*

W dniach 21–23 października 2010 r. na Wydziale Architektury Politechniki Wrocławskiej odbyły się Warsztaty Architektoniczne poświęcone Habitatom Zrównoważonym, zorganizowane przez Szkołę Naukową Habitat, działającą przy Zakładzie Projektowania Architektury Mieszkaniowej. Prace warsztatowe poprzedziła konferencja naukowa: *Habitat – zrównoważony rozwój środowiska mieszkaniowego*, wpisująca się w nurt Międzynarodowego Forum Dyskusyjnego: *Człowiek, Przestrzeń, Kultura*. Efektem trzydniowej pracy czterech grup projektowych stały się opracowania warsztatowe, ukazujące HABITATY ZRÓWNOWAŻONE w różnych ujęciach ideowych i funkcjonalno – przestrzennych. Na dostarczonych mapach sytuacyjnych wybranych rejonów Wrocławia zostały opracowane warianty zagospodarowania terenu oraz indywidualne interpretacje rozwiązań projektowych, zapewniających zrównoważone środowisko mieszkaniowe dla przyszłych mieszkańców habitatów.

Tematy koncepcji architektonicznych to: Grupa I – „DOTLENIACZ", Grupa II – „MASZROOM", Grupa III – „ZIELOKĄT", Grupa IV – „PRZEDMIEŚCIE W MIEŚCIE".

**Key words:** Habitat, sustainable development, residential enviroment

**Słowa kluczowe:** Habitat, rozwój zrównoważony, architektura mieszkaniowa

*Translated by B.Setkowicz*