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# UKRAINE



**Kharkov State Technical University  
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## Socio – Education Impact of National Heritage Research

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The valuable experience that was gained in the process of “Rescuing the hidden European wooden church heritage” project has brought additional results that were not planned initially. Being aimed at concrete practical elaboration of the methodology the project demanded participation of the multidisciplinary international working groups. Professors, post-graduates and students occurred in the unique educational environment where research and practical work on site was accompanied by communication with leading specialists in the field. Experts in architecture and engineering, restoration and reconstruction, sacred art and architecture history, philosophy and theology, social and pedagogical sciences, educational and developmental psychology as well as computer sciences represented different cultures and approaches that caused a real multicultural and multidisciplinary dialogue. As a result the project development has acquired a sustainable character due to opening the new social and educational prospects of heritage research activity as a powerful means of students' cognitive and personal growth.

Social aspect of the research activity deals with the idea of developing students as the true AGENTS of progressive changes in the field of national heritage maintenance through students' identification with their heritage. Indeed from the psychological point of view the problem of national heritage preservation is closely connected with self-identification. Unfortunately in our modern dynamic and integrating world the people experience a mass disorientation. There exists a real danger of losing individual, group, social, cultural and even citizenship identity. Solving this problem is urgent both for Western world surviving the period of globalization as well as for the post-communist area that is in the state of active searching for new identities after old system collapse. It is a matter of common knowledge that psycho-social identity - is a necessary prerequisite for individual health, internal integrity and stability. It is the first and fundamental need of personality as well as very important need of life. It is particularly important for growing generation because personal and social identities are the main regulators of self-consciousness and social behavior. Identity is connected with self-definition including choice of aims, values, attitudes that the person follows in life. The feeling of identity is accompanied by the feeling of purposefulness and sense of life as well as assurance in external approval.

Under current situation the developing youths' identification with their cultural heritage is becoming a real problem because the financial situation in many post-communist countries does not allow saving the heritage that is gradually lost. New generation cannot appreciate their cultural heritage in its primary beauty. That is why they do not identify themselves with it. To tell the truth it is not easy to be identified with ruins that are neglected and feel proud of objects of cultural value that are in a miserable state. How this problem can be solved?

Even today having little opportunity to restore our architectural monuments in reality as a first step we can involve students into educational activity aimed at cultural heritage rescuing. In addition to acquiring concrete knowledge and skills the students can realize virtual graphic reconstruction of disappearing monuments by their own hands. It is well known that being personally involved in the activity an individual begins to value the objects of this activity through understanding them. Doing this work students can identify themselves with cultural achievements of their country. The fulfillment of this social as well as existential task can be amplified by integrating the principle of individual development into very process of concrete practical work of heritage rescuing as an educational resource. On the bases of their own practical work students can identify their role of the SUBJECT of the cultural environment development as a condition of their personal development. This activity is a good prerequisite for educating future agents of progressive changes. There is hope that in the future with more favorable financial situation this people can resurrect their heritage according to the examples of graphic reconstruction they have made being the students. As a practical output of this works can be issuing the catalogues of the country architectural treasures in its authentic beauty.

The proposed approach to students' development as the AGENTS of positive changes is based on the principles of Eco-Humanistic synergetic interaction as a means of mutual development (“Eco” stands for a

complex concept comprising social, cultural and natural environment). The essence of the idea is that our surviving, our qualitative life, our meaningful life in the changing transforming integrating world demands dynamic life strategy based on human-environment synergetic interaction. Understanding "human-environment" dynamic interdependence is a necessary prerequisite for organising synergetic interaction that in its turn provides the highest efficiency of mutual development. Sustainability of the process is provided by the interaction of the whole system of human (psychological), cultural, social, educational, economics and environmental factors. The key moment is accepting responsibility of a SUBJECT of the environment development as a condition of self-development. "Self-identification – self-development – self-realization" performs a synergetic triad representing the essence of personal efficiency not only in the measurement of contemporary life but on the existential level as well.

The efficiency of the self-development process is determined by the personal strategic existential sense-cognitive orientation. Its amplitude varies from phenomenological and social to spiritual world and is expressed as orientation for "surviving", "quality of life" or "sense of life". This amplitude determines the mode of actions which individual uses for realising his/her aims. According to the psychological laws these actions are transforming into personal abilities (for "self-development", "problem solving", "social interaction") and integrating into personality as individual qualities ("creativity", "empathy", "responsibility", "autonomy", "proactivity" etc). All these determine individual's professional, social and existential efficiency as well as social, cultural, and natural environment development. So students' activity amplifies their orientation.

New opportunities that the integrating world gives us have to be filtered through human values with respect to national peculiarities as well as concrete person self-identification. The education process is intended to determine value-cognitive orientation and strategies for the development of the external and internal resources as well as personal values on the bases of moral measurement of the actions used for the modern life problem solving. All these issues are expected to be analysed in their synergetic interaction. So students' activity develops values.

There is one more aspect. As it is obviously seen the human – environment interaction has its laws. Environment influences a human behavior (individual do not behave in the library the same way as in Disco or stadium. Even the organization of the tables in the auditorium influences the professor-students interaction). So interaction with well organized educational environment (enjoying architecture or nature, watching skilful work of experts; rescuing national heritage etc) can energize creative mind, bring new associations, new thoughts and even the feeling of belonging to the great culture of the world. So the environment educates students.

Another psychological mechanism that fosters the AGENTS development is the mechanism of self-identification with "a primary territory" that can radically change attitude towards the national as well as to the world heritage. The matter is that human beings identify themselves with their primary territory (there are secondary and general territories). Their attitude towards their primary territories is similar to their attitude to themselves. As a result they care about them. So if we consider not only our home but our country as well as a whole world as our primary territory we shall identify ourselves with it. As a result our attitude as well as our behavior can be changed. It means that the process of developing AGENTS of positive changes is directly connected with the developing students' attitude to the world as a primary territory.

Discovering common roots may even develop students' identity. On the bases of these findings students can find the way how to provide synergetic interaction with the dynamic integrating world investing their unique personal and cultural identity for the sake of mutual development. Indeed the experience gained within the framework of "Rescuing the hidden European wooden church heritage" project proved the fact that it is possible within the very process of work to develop the complex identity: human identity (understanding belonging to the world); social identity (understanding belonging to social categories like ethnos, culture, nationality); personal identity (self-definition in terms of physical, intellectual and moral qualities). In this context the observations made during the project activity showed very interesting results:

1. There were present three aspects of identification: orientation to the global environment (world culture), orientation to the unicity of expression (national culture) as well as orientation to the personal role (responsibility) in the project activity (internal culture). The process of searching for social identity in the broad context of human identity via one's own activity that in its turn led to the personal identity understanding gave birth to synergetic effect. This synergy serves a good modal for solving other contemporary problems because if person tries to raise own nation's moral and material funds, he/she is preparing to become the best members for world society and helps its development. As an essential result this person develops self in the very process of activity that is a good prerequisite for understanding interdependence and advantages of mutual development.
2. It is remarkable that there were observed two ways of self-identification development. One way was dealt with gradual understanding some data about self through understanding once own belonging to the definite culture. The other one was concerned an independent professional as well as social problem solving "What am I going to be?" in the context of the defining personal and cognitive resources in relation to the rescuing national heritage that led to the so called constructive identity. Even more, there were present four spheres of life that were significant for the development of identity: the choice of profession orientation and professional career; the affiliation and/or overvaluation of religious and

moral attitudes; the development of political views; the acceptance of social roles. All four aspects were implicitly included into our project activity that made it really efficient means for students' cognitive and personal growth.

3. The whole project activity was favorable for the educating AGENTS of positive changes in the field. It was based on psychological mechanism of interaction between identifications. The matter is that on the one hand the personal identification is a product of social identification. It is social by origin: the development of identity is a result of social experience, interaction with other people. At the same time being developed the personal identity begins to influence social identification.
4. There exists one more reason for AGENTS development. The changes in identification depend on the changes in social environment. At the same time the person defines his\her environment in the sense of aims, values and needs choice. The students that occurred in the project (if voluntary but not by the pressure of their professors) already had necessary prerequisites to become a real agents of the positive changes in the field.
5. It was observed that as a result of accepting new means of activity students gradually began to appreciate new values as well as develop professionally, socially and existentially significant personal qualities (such as empathy; tolerance; resourcefulness; proactivity; responsibility; successful presentation of identity).
6. Feelings of joyful expectation and curiosity were characteristic for the students during the period of work within the project that is very often accompanied an exciting process of searching for identities. It goes without saying that positive feelings energies and efficient work as well as self-development.
7. It was curious to observe so called exposed identity when in social interaction the images of experts were translated to the students to influence on their evaluation of identity.

All these facts give good witnesses for possibility of purposeful development of students human, social and personal identification in the very process of project work that creates good prospects for the development of true AGENTS for the positive changes not only in the sphere of national heritage resurrection but also in more broad professional, social and existential context.

If educational prospects are concerned the process of students' efficient development within the project work can be based on the original innovative educational Eco-Humanistic Technology of Self-Development (EHTSD). It is carried out in the interactive mode realising the concept of "Learning Cycle" that is perfectly realized within international projects' activity. The Cycle starts from concrete experience through reflection observation and abstract conceptualization to active experimentation. Original evaluation strategy allows performing the whole process self-monitoring (by experts, professors and students). For this purpose special computerized tools are available. International teams can be organized on the bases of the original strategy for efficient team selection. Brain storming technique, mind maps, surveys, tests and a set of original developmental techniques can intensify the work.

A whole set of specially organized events can be proposed for providing a system approach to the practical education process realization. They are the following:

1. organizing the international experts' activity within the event "**Experts' workshops**":
  - elaborating a collaborative multidisciplinary curriculum for intensive theoretical course;
  - developing strategy for organizing student's practice "on site" aimed at gaining practical experience in the field as well as gathering data for graphic reconstruction of the architectural heritage objects and developing digital database;
2. providing international student groups' practice within the event "**Educational tourism**":
  - delivering intensive introductory course "on site" observing the state of the art;
  - organizing practical work (observing, data gathering, drawing, measuring, restoration) "on site" in the countries participating in the project for the purpose of acquaintance with the architectural heritage in the context of unicity, difference and interaction of local traditions and classical prototypes;
3. providing students' training within the event "**International students' workshops**":
  - conceptualizing acquired experience by means of theoretical generalization in the format of lectures delivered by the leading experts of the field;
  - developing data received in the process of practical work "on site" under the supervision of the experts in the field;
  - keeping in mind that a proposed field presume an essential role of the human factor it is reasonable to organize interactive lectures for gaining competence in the management of self-development in the very process of professional and training activity. This activity can provide the synergy of creativity with

personal values and resources (professional, social, existential) for educating an AGENT for positive changes in the field ;

4. providing collaborative practical activity within the event **"Virtual workshops"**:
  - summarizing the local situation in the field on the bases of the criteria elaborated within the collaborative project work and writing a report;
  - presenting data of measuring works for graphic reconstruction projects, watercolors, paintings, drawings and graphic works;
  - creating database for providing concrete reconstruction works;
  - developing concrete restoration projects based on the knowledge, experience and data received during the collaborative work;
5. providing evaluation and dissemination activity within a whole system of events:
  - organizing competition for the best restoration or graphic reconstruction project as well as for the best paintings, drawings, graphic works (event **"Best project competition"**);
  - organizing exhibition of the best projects as well as for the best paintings, drawings, graphic works (event **"International exhibition"**);
  - organizing conference on the problem including dissemination of the acquired experience as well as keeping results in perspective (event: **"International conference"**);
  - issuing CD, educational book, architectural heritage catalogue as well as methodology on the bases of the activity results; providing copyright (event: **"Publishing activity"**);

If we describe the advantages of the proposed collaborative multicultural and multidisciplinary activity in terms of possible results the list will look quite impressive:

1. Concrete practical methodologies (know-how):
  - for selecting data and developing database for the purpose of reconstruction works;
  - for graphic reconstruction of architectural heritage;
  - for reconstruction of national heritage object;
2. Actual educational methodologies (know-how):
  - for curriculum based on multidisciplinary approach;
  - for innovative educational courses based of international collaboration;
  - for organizing educational tourism for architects and civil engineers;
3. Concrete reconstruction projects, databases and students' works:
  - projects of the reconstruction of national heritage object;
  - graphic reconstructions of architectural heritage;
  - databases for providing reconstruction works;
  - students works (projects; measuring practice works; watercolors, paintings, drawings and graphic works);
4. International competition of the best projects;
5. International exhibition of the best projects; the best students works;
6. International conference;
7. CD, educational books, copyright;
8. Catalogues of city architectural heritage graphic reconstruction;
9. Professional knowledge, skills acquired by the students and educationalists as well as personality development as an AGENT of positive changes in the field;
10. Original education technologies such as "Eco-Humanistic technology of self-development", "Evaluation strategy", "Ideal team selection strategy" etc.

This list is open and we are sure that it can be enlarged by more ideas both in practical and educational field. Collaborative multicultural multidisciplinary work gives rich and unique opportunity for successful solving common problems. This activity is based on synergetic interaction of leading experts striving for development as well as for positive changes.

## **Peculiarities of Ukrainian Sacred Architecture (Distinctive Features and Traditional Characters)**

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The Ukrainian sacred culture and, particularly, its wooden churches tradition is an outstanding European phenomenon, which have been formed on complex intercultural ground. One to be placed between eastern and western Christian branches, Ukrainian culture has assimilated both characters as Eastern Orthodox as well Roman Catholic influence. Furthermore, pre-Christian cultural traditions have been placed in Ukrainian culture and they have been fixed in this unique phenomenon.

Ukraine places at the center of European cultural traditions crossroad. One to be limited by the seas from the south and by swamps and forests from the north, formerly this geographic place was represent natural passage from eastern to western areas. Beside the land way from east to west, also the way by rivers valleys was exist from north to south. Both ways communicated Hellenistic and Roman civilization with eastern and northern ethnic populations.

The ethnic roots, which formed this national traditions mosaic, are coming to historical past of this place and they are relate to ethnic groups and tribes of Slavic, Alan, East Goths, Polovetsians, Khazars and Hunns, Hungarians, who settled this territory not so long ago in common historical meaning – from fourteen till ten centuries ago, at early medieval period. Some these names have been disappeared from modern map, but they have been assimilated during following historical period. Some Slavic tribes of this area were relatively close to Polish, Slovak and Czech Slavic tribes (so-called Prague-Korchak group circle – from the Vltava to the Dnepr River). It is reasonable to define Ukrainian population as progeny of these historical ancestors. Therefore Ukrainian historical multicultural variety represents very significant phenomenon within European commonness.

Ukrainian territory represents exactly historical center of medieval Russian state. The name "Ukraine" is comparatively modern one, since about 17 century, after joining up with Moscow Kingdom. Truly, Ukraine had begun from Kiev Russia, which has been formed as the state at 862-882 CE as Slavic-Scandinavian community on the trade crossroad between Baltic area and Byzantine Empire. Scandinavian cultural influences have been placed here by Scandinavian dynasty of Roerich and their society (famous Ukrainian State Emblem has Scandinavian origin).

Since 14 century some part of previous Kiev Russia was united with Lithuania and since 15 century with Poland. This period has produced similarities between Ukrainian-Polish-Lithuanian cultural traditions: within ethnic costume, ethnic music, wooden constructions and so on.

During last centuries Ukrainian territories has been separated as administratively as well culturally. Until 20 century some parts of Ukraine was belonged to different countries: such as to Russia and Austro-Hungary. This differentiation also appears among distinctive features within Ukrainian cultural heritage.

That is why so many similarities between Ukrainian cultural features are obviously correspond with eastern and western traditions, with Russia, Poland, Lithuania, Slovakia, Czech, Romania and so forth.

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As the Church applies to different nations, as well church architecture assimilates distinctive ethnic features, which reveal in sacred architecture regardless of style.

Christian sacred architecture includes syncretism of either ethnic or universal elements. Bright national peculiarities take place inside each denominational tradition: as in Eastern Orthodox as well in Roman Catholic.

Since second half of 19 century different investigators (as Russian and Ukrainian as well Germans) of Ukrainian wooden churches constructions were defined here unique combinations of native Russian and Scandinavian features.

Russian (northern and eastern) sacred tradition is quite close to Ukrainian, mostly by constructive technologies and by Orthodox denominational relation. But they are quite different by their reflected imagination meaning and characters. Russian wooden constructions are developed in horizontal beams sequences which formed peripheral walls and vaults.

Ukrainian tradition is relatively close to Norwegian by manifested imagination meaning and characters. They use distinctively leveled towers, which composed into long-ship structure, encircled by gallery below. But

they are different of principle by constructive technology. Scandinavian wooden constructions are using constructive skeleton, which is planked.

Within variety of Ukrainian tradition here are some samples of unification both famous traditions, where beams sequences and planked constructive skeleton are represent in one building.

One to be located at the middle of European area, to be inside multicultural interrelations, Ukrainian culture assimilated different eastern and western, northern and southern European influences. On the reach cultural ground Ukrainian nation have got produced native original traditions.

It is possible to recognize and differentiate several trends of Ukrainian traditions. One of them has Trans-Carpathian influences. This type represents by tree-chamber ship with predominated west tower. This type is very similar to Czech and Moravian tradition.

Other distinctive types represent low three-chamber churches with predominated central tower. They are most widespread on Ukraine from Carpathian forests up to eastern steppes. Delicate oriental plastic meets with western expression in three-chamber churches, which resemble to sailing ships on the background of the sky. These types are very close to traditions of south and middle Poland.

Among various traditions of Ukrainian wooden churches it is important to single out the following ones such as Boykivska and Lemkivska, which are spreading at western regions, and Limanska tradition, which characterized eastern regions. Limanska tradition has own distinctive features in shapes and specific eastern mystical interiors. Wooden cathedrals are not spread, but small parochial churches and chapels, which bring real ethnic character, usually have been realized as wooden construction.

Ukrainian wooden constructions tradition during long historical experience has own distinctions. It uses specific native natural materials. Complex climatic conditions demand original solutions – summer heat and winter frost demand thermal insulation. Construction requires effective protection against moisture, inner moisture condensate is forbidden because oil or tempera painting usually placed on the walls and roofs.

The Christian church has formed its own ordered literature, choral, icon painting and architectural symbolical structure. Wooden sacred architecture has obvious narrative factor which manifested doctrine of the Church. Specific language is very important element of the sacred architecture, which represented church doctrine manifestation in signs and symbols.

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Relatively to actual restoration and preservation problems of the Ukrainian wooden churches heritage, contemporary situation in this sphere has distinctive troubles. During 20 century many treasures of wooden sacred architecture were destroyed. Some part of significant objects is survived, but their restoration needs professional approach and fundamental investigation.

The most difficult problem regards to financial troubles in new economical conditions. Also satisfactory professional level of restoration invasions has seeking for complex scientific approach, which must involve as historical, cultural and artistic as well constructive, chemical, biological spheres (regarding dendrology and investigation of fungi and insects specific).

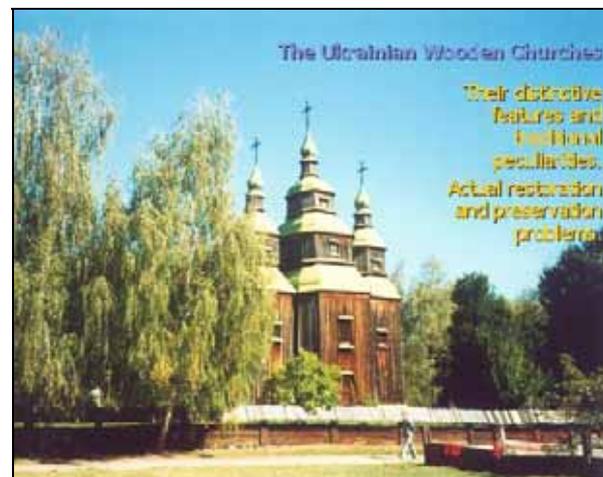
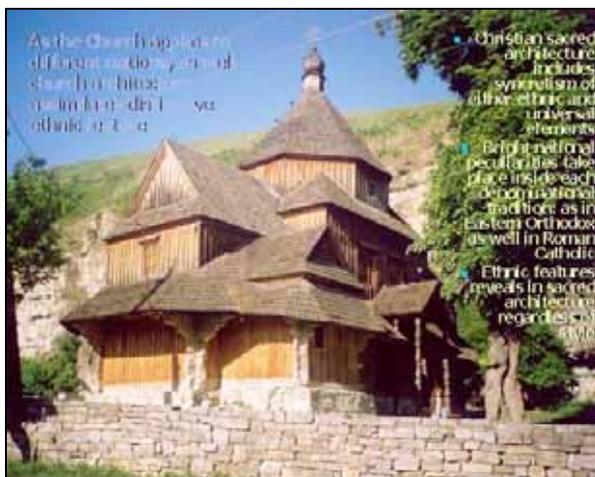
Ukrainian wooden constructions traditions in comparison with Polish, Slovak and Czech wooden constructions traditions give understanding of their obvious similarity common roots. Common international efforts in Middle Europe wooden churches heritage give good way for following progress within correct solutions of these problems.

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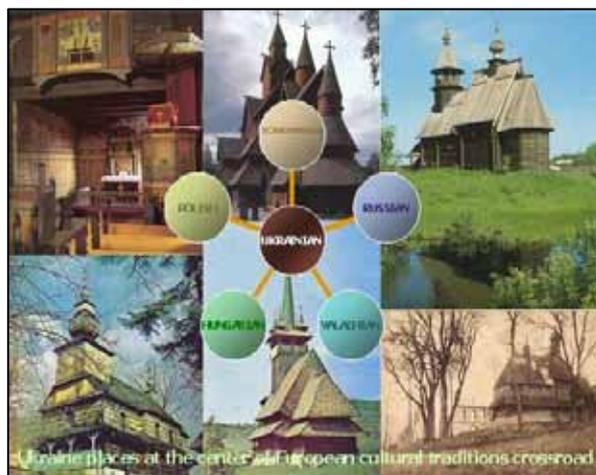
## Actual Restoration and Preservation Problems of the Ukrainian Wooden Churches

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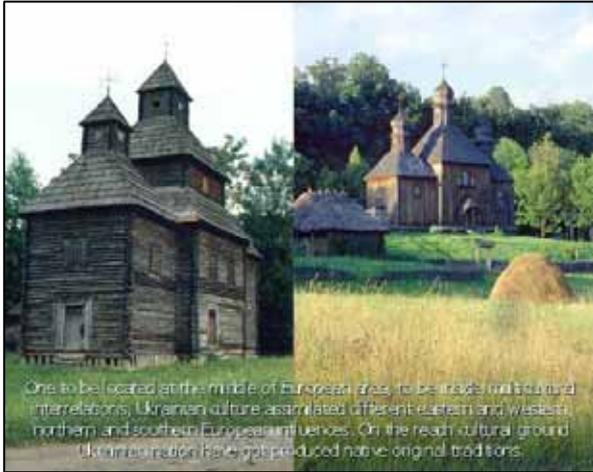
According to the fact that the Church belongs to different nations the sacred architecture assimilates distinctive ethnic features:

- Christian sacred architecture includes syncretism of both ethnic and universal elements;
- Bright national peculiarities take place inside each denominational tradition: both in Eastern Orthodox and in Roman Catholic;
- Ethnic features are revealed in sacred architecture regardless of style.



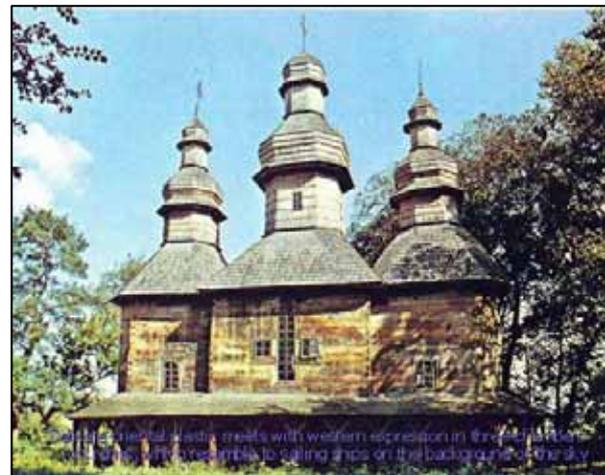
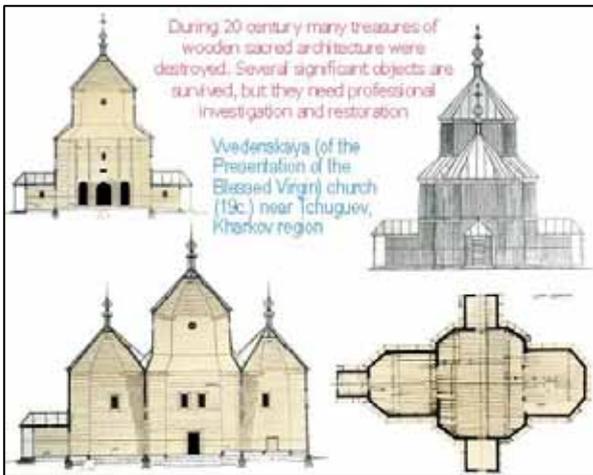
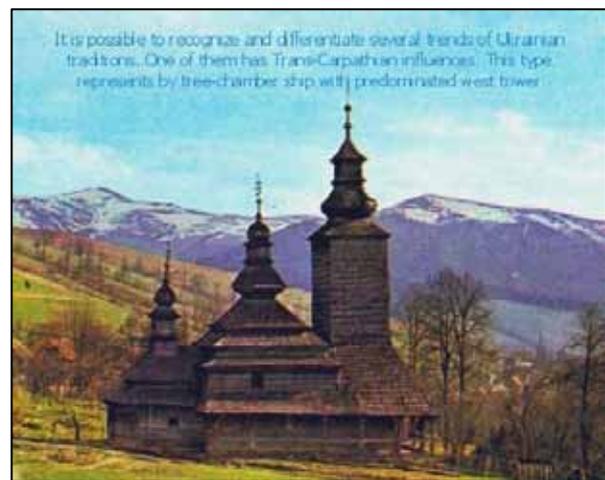
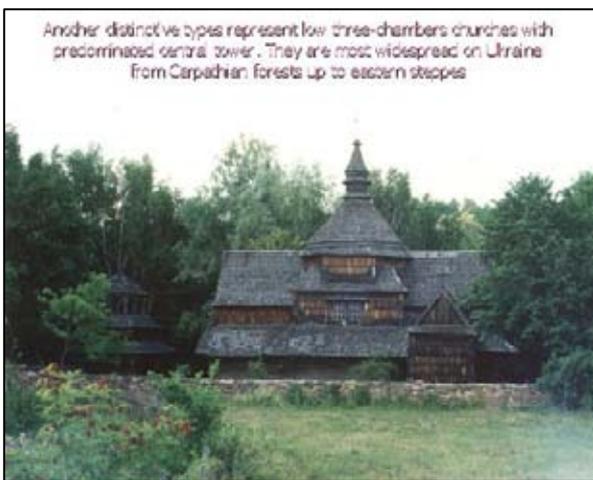
The Ukrainian sacred culture and especially its wooden churches tradition is an outstanding European phenomenon which has been formed on complex intercultural basis. Ukraine had arisen from Kiev Russia. Rus' was born in 862-882 as Slavic-Scandinavian community on the trade crossroads between Baltic area and Byzantine Empire. On the one hand the territory of Ukraine represents historical center of medieval Russian state. Being placed between eastern and western Christian branches, Ukrainian culture has assimilated characters of both Roman Catholic and Eastern Orthodox influence. On the other hand being located in the middle of European area it occurred in the middle of multicultural interrelations, in the very centre of European cultural traditions crossroad: Scandinavian, Russian, Valachian, Hungarian, Polish.

## Rescuing the Hidden European Wooden Churches Heritage



As a result Ukrainian culture assimilated different eastern and western, northern and southern European influences.

Russian (Northern and Eastern) sacred traditions are quite close to Ukrainian ones. These are mostly constructive technologies and Orthodox denominational relation. But they are quite different by their reflected imagination meaning and characters as well as by principle of constructive technology. Ukrainian traditions are relatively close to Norwegian one by manifested imagination meaning and characters. They use distinctively leveled towers, which composed into long-ship structure, encircled by gallery below. As a result Ukrainian nation have got produced native original traditions on the reach cultural basis.



It is possible to recognize and differentiate several trends of Ukrainian traditions. One of them has Trans-Carpathian influences. This type is represented by three-chamber ship with predominated west tower. Another distinctive type represents low three-chamber churches with predominated central tower. They are mostly widespread in Ukraine from Carpathian forests up to eastern steppes. Delicate oriental plastic meets with western expression in three-chamber churches, which resemble sailing ships on the background of the sky. Central and eastern area of Ukraine is represented by outstanding "Limanskaya" tradition with its own distinctive features in shapes and mystical interiors. They are no cathedrals, but small parochial churches and chapels, which bring real ethnic character.

So the folk wooden architecture of Ukraine was developed in the context of Eastern Slavic traditions. European architecture has also made its great impact on the Ukrainian culture. IX-XII century is connected with the time of architectural forms and constructions general unity development. In XVI-XVIII century the national

specific features of Ukrainian wooden architecture was intensively developed. Chronologically it coincides with the Baroque period. That is why its features were manifested in Ukrainian distinguish of style. XVIII century became the Golden Age for the Ukrainian culture.

### **Conservation Conditions for Wooden Monuments in Ukraine (actual restoration and preservation problems)**

Unfortunately in XX century for a long time the sacred wooden monuments conservation was almost neglected because of official policy caused by materialistic ideology of the communist state. More than that the substantial part of heritage were almost ruined. Anyway in our time about 200 outstanding monuments of wooden architecture are known. More than 600 monuments are considered to be the national heritage.

Today the priorities are gradually changing. The essence of the present time is the search for self-identification that expresses itself in searching for native historical and cultural roots. As a result intensive works were begun in the field of wooden monuments conservation (preservation).

There exist the following methods of restoration in Ukraine:

1. Conservation (preservation) of the object in its **actual form** by means of modern methods of reconstruction with maximum conservation of original parts;
2. **Fragment restoration**: the revival of the lost fragments of the object and removal of the foreign parts on the bases of scientific methods. These methods include chemical conservation of the wooden parts without construction demounting.
3. **Holistic restoration**: the reconstruction of the object in its **original form** on the bases of the saved samples. This method includes scientific methods of restoration, chemical (polymer) technologies.

The approach to conservation is efficiently realized as "Scansen" (Perejaslav-Kmelnickiy (1964), Lvov (1966), Zakorpatskiy region (1967), Kiev (1969) and conversation on site.

Ukrainian wooden constructions tradition during long historical experience has own distinctions:

- It uses specific native natural materials;
- Complex climatic conditions demand original solutions;
- Summer heat and winter frost demand thermal insulation;
- Construction requires effective protection against moisture;
- Inner moisture condensate is forbidden because of oil or tempera painting on the walls and roofs.

The most dangerous factor for the Ukrainian wooden churches is the humidification of the construction. At the temperature of 18-36 degrees the fungus is the destroying factor. The condensed dampness produces advantageous conditions for the insects that destroy wood.

The most frequently antiseptics used for conservation in Ukraine is: sodium fluoride, flint sodium fluoride, sodium dichromate, borax, boric acid, sodium pentachlorophenolate etc. The most efficient is the mixture of sodium pentachlorophenolate, borax and boric acid. This solution helps to protect wood against biological destroyers as well as against fire saving its natural beauty. The most efficient is the method of reassembly of the construction accompanied by its chemical processing.

There are the following problems concerning the restoration used in Ukraine:

1. **The problems of using authentic technologies.** Climatic conditions do not allow the contact between iron and timber because metal condenses humidity and leads to the quick wood decay. The usage of metal parts was undesirable because they accumulated moisture. Earlier the wooden churches were built without nails. The dowel-joint made from ironwood was used. Now the skills for this kind of construction are lost.

The peculiarity of church construction in our region is a horizontal rows of timber logs. The skills of placing logs and insulating with moss are also lost.

2. **Problem of using authentic tools** (instruments). Modern saws and smoothing planes produce brush effect (the structure of wood becomes like velvet) and the humidity is kept longer in the wood. But old traditional technology using old axes pressed and ironed wood producing danced and flat surface. Now the technologies have been lost and besides we have no specialists in this field. New instruments and technologies allow to build wooden constructions rapidly but these constructions decay rapidly too because the microstructure of wood does not allow to save it for a long time.

3. **Problem of using authentic materials.** Earlier local materials were used. There were used different kinds of wood: for ground level - hard kind of wood (oak or larch) that were burned to prevent decay in the ground; for middle part – oil soft kind of wood (pine or fir tree); for roof coverage – hydrophobic kind of wood (aspen or alder) because they are easy-dry and easy-move water flow. This wood also breathes. Today felling is officially forbidden in Ukraine. The wood is transported from Ural. The material is not authentic for region. That is a reason for fungus. There is also some economical problem in providing this different kind of wood.

In Ukraine the peculiarity of service is a wide usage of candles in Orthodox Church and a broad usage of untipiren substance. The fire risk is very high.

In Norway a special treatment, plastificators are used. The main problem is that the wood does not breath as well as the fire risk is growing (two famous churches were lost).

## Rescuing the Hidden European Wooden Churches Heritage

Besides the church interior are painted by tempera. If the wood does not breathe the moisture is falling on the wall painting. As a result the fungus is appeared and the paintings turn black.

4. **Problem of modern architects.** The churches were reconstructed and the styles were blended. The question is how far the restoration should be done: back to initial form or to significant historical period? Wooden sacred architecture has obvious narrative factor which manifested doctrine of the Church. Specific language is very important element of sacred architecture. It represents church doctrine manifestation in signs and symbols. The language of architectural forms should be understandable. The church is the manifestation of the doctrine expressed by the language of architectural forms, by symbols, by signs. The modifications, the reconstructions, the remakes, the losing are like words divorced from the sentence that cut the narrative subject. Modern architects are not skilful in reading the language of sacred architecture that courses a lot of mistakes while producing restoration works.

### Rescuing "Introduction of St Virgin into the Temple" Church

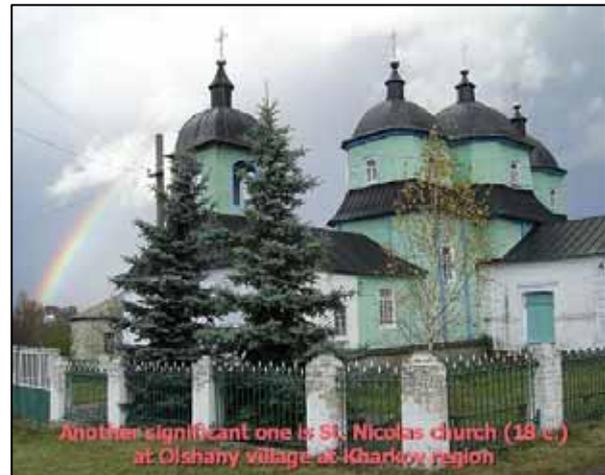
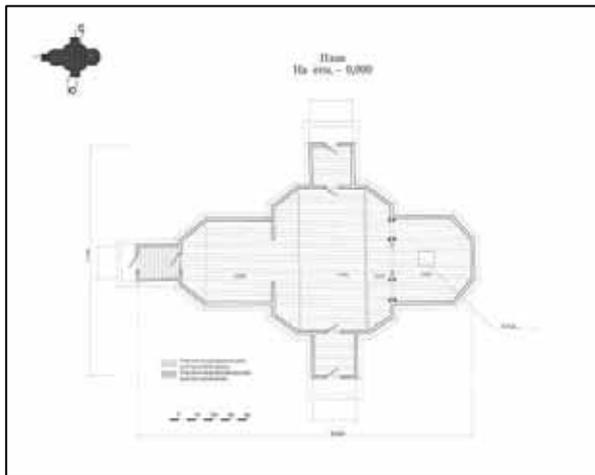


#### Location

In Ukraine, in its eastern part (to be more precise in the centre of village Vvedenka of Chuguev region, Kharkiv district - the former Zmeevskoi district of Slobodsko-Ukrainian province) an ancient religious wooden construction of Ukrainian Livoberezhzhye – Church of "Introduction of St Virgin into the temple" – is situated.

#### Construction

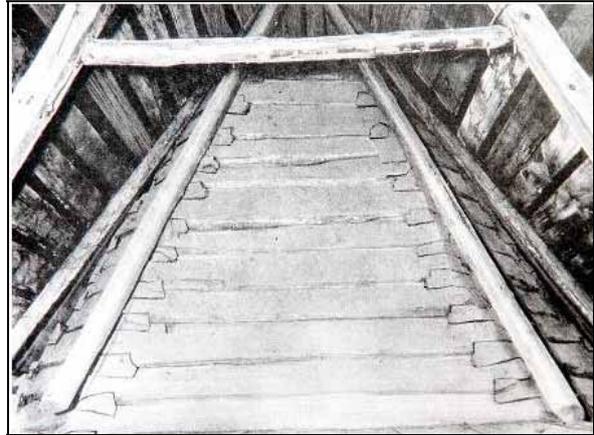
Vvedenskaya church belongs to the archaic wooden triple-shear (log-house) type of buildings with central two-high volume. The building is oriented west-east, it is cross-shaped and consists of two hem octagon (altar and outhouse) and octagonal central part and has a pyramidal composition. Triple-shear structure of volume-dimension composition that was created under the influence of baroque, form of plan, sloping walls, original absence of paintings in the interior. allow to ascribe this architectural monument to the ancient buildings that preceded Limanskaya school of wooden architecture of Livoberezhnaya Ukraine.



#### History of the church

Historical and archival research allows to determine that the first temple in this place was built in approximately 1655. After the fire of 1728 it was rebuilt and in 1777 it was disassembled because of decay. The same year a new church with a separate bell tower was built of oak beams that remained till nowadays. During the time of its existence the church has been repaired for many times (in 1823, in 1829, in 1844, in 1856 and in 1876). During the Soviet period the church was closed and nationalized. It was used as a grain storehouse by a local collective farm artel. And only at the end of the 20-th century with great help of church community the church was restored.

### Dramatic history of the church destruction



In the same period the church building was declared as a Ukrainian architectural monument. Work on the research of the building started in order to restore it. However at the beginning of the 20-th century a famous Ukrainian art researcher S.A. Taranushenko mentioned about it and wrote petitions. But the Soviet government took no measures in order to save this unique object. The church wasn't functioning for a long period of time, destroying insensibly.

For the purpose of social property fire protection in the 60-ties of 20-th century the building was coated with clay and whitewashed on the outside. From time to time the roof was repaired. But the technical state of the temple was decreasing. The permanent dampening of the walls brought to the intensive destruction of the log-house. Especially it occurred in the places of parts connections. Under the layer of clay whitewash the ancient wooden boarding was quickly destroyed.



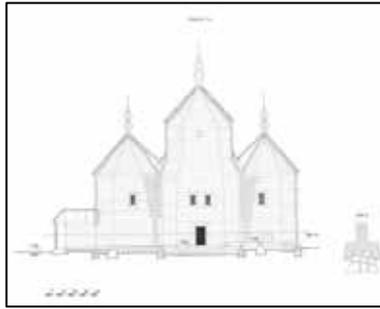
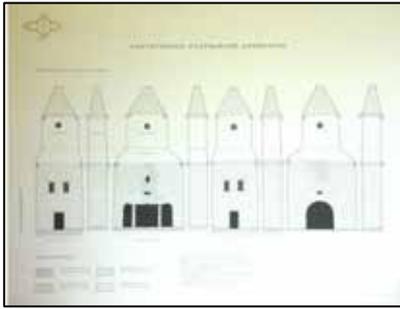
The exploitation of church as a storehouse leads to the destruction of the lower beam level. The lack of ventilation and premises' aeration lead to the appearance of mould. Later on the fungus spreaded over the entire surface of the walls and the wooden floor.

By the end of the 20-th century the temple was in an emergency state and it was necessary to carry out intensive work in order to save the temple.



### History of church reconstruction

In this time favorable conditions for the church community revival were formed. The community addressed to the Soviet government with the petition to return them the building for many times and give money for the restoration of the temple. The branch of Designing Institute "Ukrproektrestavratsiya" in Kharkiv established in the end of the 20-th century has started the research of Vvedenskaya church. In 1990 for the first time a detailed church measuring was carried out as well as the technical research of wooden building construction, its foundation, roof (the authors – Lopatko V., Skripka V., Chernolihova A., Ryapolov V.) The specialists of the institute tried to test the state of timber under laboratory conditions that allowed to determine the way of architectural monument's rescuing.



### Discoveries

In the process of research it was determined that in 1844 and 1856 Vvedenskaya church was painted with oil-paint. In the 40-ties of the 20-th century the lower beams of the building were changed for red brick basement because of decay.

Due to the technical reasons in 1859 the wooden belfry was pulled down and a new bell tower was build that existed up to 1932.

The specialists also found out that the icons of Vvedenskaya church of the second half of 20-th century also have artistic value. They belong to the lost nowadays Chuguev school of iconography. A famous Russian artist Repin I.E. originated from this school.

The work of S.A. Taranushenko played the unique significance in the research of the temple. He discovered the national wooden monument in the 20-ties of the 20-th century and that allowed to carry out the identification of external forms of the building, its proportions, and sizes.

After preliminary clearing of clay coating and the first uncovering it turned out to be a masterpiece of Ukrainian national wooden architecture that by a miracle has been saved up to our days.



### Reconstruction work

The specialists of Restoration Centre prepared project proposals on saving the temple. Detailed engineering, chemical and technological researches were presented (Beletskaya E., Salnikova N.), full-size architectural and archaeological measuring, overture and prospect-hole were carried out, historical, archival and bibliographical researches have been gathered and summarized.

Unfortunately the restoration work of the church building had not been carried out. And only due to the efforts of the local church community and the authors of the project it became possible to restore the external wooden boarding, to repair metal roof, to strengthen the beams by clips. Unfortunately the governmental financing wasn't enough for the chemical conservation

## Rescuing the Hidden European Wooden Churches Heritage

of the beam timber. Local skilled craftsmen sewed up the internal walls with plywood and that is not favorable for the building aeration, for its preservation.

At present the external walls of the temple are painted with blue oil-paint again that doesn't coincide with the original intention of skilled craftsmen.

Unfortunately, the icons and all the church plate were not returned to the temple. The specialists of Kharkiv State Technical University of Civil Engineering and Architecture carry out further researches of the temple. Students of restoration profile are actively recruited for casual work. Though the scanty financing doesn't contribute to a successful work. And the unique monument of national wooden architecture of Livoberezhnaya Ukraine waits for its chance, for its true revival!



## UKRAINE

### Kharkiv State Technical University of Construction and Architecture

#### CURRICULUM VITAE

##### **Sergeyeva Tetyana**

Professor, Head of the Department of Kharkov State Technical University of Civil Engineering and Architecture; Supervisor of Innovative Educational Technologies Research Unit, Lecturer, Supervisor of Postgraduates

**COURSES TAUGHT:** General, Social, Developmental, Psychology; Human Resources Development; Innovative Education Technologies; Language Engineering

**FELLOWSHIPS:** Full-time course in English Language, Life and Institutions at University of Surrey (Great Britain); Lecturing in Natural Language processing systems at Brandenburg Technical University (Cottbus, Germany); Research work at King's College of Cambridge University (Great Britain); Lecturing in Eco Humanistic Technology of Self-Development at Lyon 1 University and Lyon 2 University (France); Head of the Evaluation of the Distance Learning Project "Industment" within Tempus-Tacis scheme (in collaboration with Germany and Austria); Head of the project "Human Resources Management" (Jep-24150-2003) within Tempus-Tacis scheme (in collaboration with Germany and Austria); Expert of the International Romualdo Del Bianco Fund (Italy).

**RESEARCH:** Education as a form of self-realization on the bases of self-cognition and self-development (multimedia interactive autonomous metacognitive course based on original Education Technology of Self-development); Cognitive process and personal development within computer aided training including distance learning; Human Resources Development including: communication; information; negotiations; moderation; presentation; conflict management; time management; group dynamics; leadership; teamwork; counseling; personnel selection and development; assessment centers, problem solving; making decisions; theories and modals of motivation and success; satisfaction by work; moral factor. Cross-cultural research of common European roots; Methodology of multidisciplinary dialogue; Human memory and thinking functioning within the process of cognition; Language engineering: speech understanding on the basis of thinking algorithm; NLP system based on psychological model of human thinking; MT system based on Sense Interpretation Technique

**PUBLICATIONS:** 16 monographs, 76 articles, 55 course books

##### **Volodymyr Lopatko**

**CURRENT POSITION:** Senior Lecturer of the Department of Principles of Architecture.

Kharkov State University of Construction and Architecture (KSTUCA)

**EDUCATION:** 1970-1975 Kharkov Civil Engineering Institute, Dept. of Architecture, Ukraine

**PROFESSIONAL APPOINTMENTS:**

1995-present: Assistant Professor of the Department of Reconstruction and Restoration, Kharkov State University of Construction and Architecture (KSTUCA)

1995-1987: Chief Architect of the project of Restoration Institute (Kharkov)

1987-1975: Architect, Chief Architect of Restoration Office, Arhangelsk, Russia

**COURSES TAUGHT:**

History and Theory of Restoration Architecture; Construction Materials and Restoration Technology Principles of Historical and Modern Projecting

**PROFESSIONAL HONORS, AWARDS, FELLOWSHIPS:**

Since 1995 Member of the Board of the Union of Architects, Kharkov

Since 1990 Member of the Union of Ukrainian Architects

Since 1987 Member of USSR Union of Architects

Since 2003 Member of the International Experts Committee of the Romualdo del Bianco Foundation in Florence, Italy.

**LANGUAGES:** Russian - native speaker, Ukrainian - native speaker, German - fair

**RESEARCH:**

- History of Folk Wood monuments and architecture of Russian North, Ukraine

- Restoration and Reconstruction of the church architecture

- Specific of modern project and design

- Synergy of old and modern technologies of the construction

- Juridical questions concerning protection of the historical buildings and city environment

**PUBLICATIONS:** 7 monographs, 10 articles

**PERSONAL:** Professional level in painting, artistic photography. Special skills in church architecture and old technologies.

**FIELDS OF INTEREST:** philosophy, common history, history of religions, mythology, ethnic cultures peculiarities, fine art, technique & engineering.

##### **Klimov Igor**

**CURRENT POSITION:** Senior Lecturer of the Department of Principles of Architecture.

Kharkov State Technical University of Construction and Architecture (KSTUCA)

Place and date of birth: Kharkov, Ukraine, 31.07.1960

**EDUCATION:** 1979-1984 Kharkov Civil Engineering Institute, Dept. of Architecture, Ukraine

- M. Sc. in Architecture.

- Since 1997, post-graduate study in Architecture, Subject – Sacred Architecture, Thesis – the Architectural Iconography Semantics of Christian Orthodoxy Cathedrals.

1998- 2003 University of the South Africa, Dept. of Theology, UNISA, Pretoria, RSA,

**PROFESSIONAL APPOINTMENTS:**

2002-present: Senior Lecturer of the Department of Principles of Architecture, Kharkov State Technical University of Construction and Architecture (KSTUCA)

1989-2002: Research worker & Lecturer Kharkov State Technical University of Construction and Architecture (KSTUCA)

1984-1989: Architect General, Scientific Research Institute of Radiotechnical Measurements, Kharkov, USSR

**COURSES TAUGHT:**

History and Theory of Arts and Architecture;

Sacred Architecture & Sacred Art, Semantics of Architecture;

*Icon Painting:*

*Architectural Design.*

**PROFESSIONAL HONORS, AWARDS, FELLOWSHIPS:**

*Since 2003: A member of the International Experts Committee of the Romualdo Del Bianco Foundation in Florence, Italy.*

*Since 1998: Study in theological Dept. at University of the South Africa (UNISA), Pretoria, RSA*

*1994-1995: Training in "Hagia Hora" seminar organized by German-Swiss Institute of Geomancy under the program of Sacred Art and Ecological Architecture (Germany)*

**LANGUAGES:** *Russian - native speaker, Ukrainian - native speaker, Polish – fluently, English – fluently, German - fair*

**RESEARCH FIELDS:**

- *History and Philosophy of Arts*
- *History of the Humanity Culture, Culturology*
- *Mental Aspects in Contemporary Art- and Architectural Trends*
- *Theological Topic of Christian Sacred Architecture*
- *Liturgical and Iconographic Aspects of Medieval Cathedrals*
- *Cosmological Content of Sacred Architecture Amongst Different Cultures*
- *Contemporary Church Architecture Development and it's Artistic Expressive-Imaginative Context*
- *"The Nature Among the City" Appearances in Contemporary Postmodern Civilization*
- *The Nature, the Human and the Industry Co-existence within Megapolices Environment. Architectural Ecology Intentions*
- *Ecological Architecture Development in Post-Industrial Societies*
- *Energy Savings Technologies in Contemporary Ecological Building*

**PUBLICATIONS:** *11 monographs, 5 manuscripts*

**PERSONAL:** *Special skills in knowing of sacred art, church architecture and ecological architecture. Professional level in painting, iconography, artistic photography, computer artistic design.*

**FIELDS OF INTEREST:** *philosophy, common history, history of religions, mythology, ethnic cultures peculiarities, anthology of early music, fine art, industrial & artistic design, technique & engineering, biology and dendrology.*

### **Bolotskyh Mykola**

*Academic, Professor, Rector of Kharkov State Technical University of Civil Engineering and Architecture*

**COURSES TAUGHT:** *Technical Equipment in Construction; Construction Technologies; Construction Machinery and Equipment*

**PROFESSIONAL HONORS, AWARDS, FELLOWSHIPS:** *Honoured Executive of Higher School of Ukraine; President Plaque "For Distinguished Service" (III degree); USSR Council of Ministers Prizewinner; Big Silver Plaque & Diploma of Engineers National Association of India; International European Educational Project "Personal Management" within Tempus TACIS framework in collaboration with Hagen University (Germany); Collaboration with Handan University of Civil Engineering and Architecture (China); Collaboration with Brandenburg Technical University (Germany); Collaboration with Krakow Mine Metallurgy Academy (Poland); Collaboration with Posnan Polytechnics (Poland); Collaboration with Slovak Technical Academy in Bratislava (Slovakia)*

**PROFESSIONAL SERVICE:** *Member of the Presidium of Construction Institutes Association of CIS; Member of the Presidium of Civil Engineering Academy of Ukraine; Member of the Presidium of Ecological Academy of Science of Ukraine; Member of the Board of Directors of North-East Centre of National Academy of Science of Ukraine; Vice President of Ukrainian Association "Personnel for Construction"; Vice President of the Council of Rectors of Kharkov Educational Centre; President of the Council Specialised in Awarding D.Sc Academic Degree*

**PUBLICATIONS:** *22 monographs, manuals and educational books; 158 articles, 35 copyright certificates and invention patents; delivered reports at academic congresses, symposiums, conferences*