

# CURRICULUM VITAE

## Yuriy V. Goncharenko

Senior Researcher

Department of Radio-Wave Propagation in  
Natural Media  
Institute of Radio-Physics and Electronics  
NASU  
Kharkov, Ukraine



<b><u>Personal</u></b>	
<b><u>Address</u></b>	ul. Kotlova 66, apt. 9, Kharkov 61052, Ukraine
<b><u>Phone</u></b>	+38-063-284-0100 (mobile @ Ukraine), +38-057-720-3358 (work) +38-057-315-1105 (fax)
<b><u>E-mail</u></b>	<a href="mailto:YGonch@brain.org.ua">YGonch@brain.org.ua</a>
<b><u>Date of Birth</u></b>	9 June 1976
<b><u>Family status</u></b>	Married
<b><u>Education</u></b>	
1993 – 1999	National Technical University “Kharkov Polytechnic Institute” Graduated as Radio Physics Engineer with a distinction.
2001-2006	Institute of Radio-Physics and Electronics of the National Academy of Sciences of Ukraine, part-time Ph.D. student
<b>Languages</b>	English, Russian, Ukrainian

<b><u>Degrees</u></b>		
Master in Radio Physics and Electronics with Honors (1999)	<u>Thesis:</u> Digital correlator for incoherent scattering radar.	
Ph.D. in Radio Physics (2007)	<u>Thesis:</u> Statistical characteristics of trans-atmospheric UHF signals obtained during strong solar proton events <u>Supervisor:</u> Prof. Felix Kivva	
<b><u>Field of Research:</u></b>	<ul style="list-style-type: none"> <li>- Investigation of solar activity influence on atmospheric parameters and radio wave propagation conditions.</li> <li>- Microwave remote sensing of different types of land cover (sea surface, vegetation).</li> <li>- High frequency adsorbent treatment.</li> <li>- Applied researches.</li> </ul>	
<b><u>Work experience</u></b>		
Date started - Date finished	Position, Department, Name of the Employer	Main Duties / Principal Developments & Achievement
1996 to 1999	Part-time maintenance technician at the Institute of Ionosphere NASU	<ul style="list-style-type: none"> <li>- computer servicing,</li> <li>- special scientific equipment development.</li> </ul>
1999 to 2000	Engineer-programmer at the Institute of Ionosphere NAS of Ukraine	<ul style="list-style-type: none"> <li>- computer processing of data obtained by incoherent scattering radar.</li> </ul>
2008	As member of bikers and tourists community of Kharkiv ( <a href="http://tourist.kharkov.ua">http://tourist.kharkov.ua</a> )	Took a part in development of high-power LED driver for front bike light.
2009 to 2010	Part time design engineer at Scientific and Industrial Company SETRA LTD ( <a href="http://setra.com.ua/">http://setra.com.ua/</a> )	Development of high-power HF tube and MOSFET generator for fast adsorbent treatment using HF electromagnetic radiation. Upgrading and technical support of equipment for fast oil and adsorbent treatment (BRPS-3)
2001 to present	<ul style="list-style-type: none"> <li>- PhD student</li> <li>- principal engineer;</li> <li>- junior researcher</li> <li>- researcher</li> <li>- senior researcher</li> </ul>	<ul style="list-style-type: none"> <li>- development of high sensitivity Ku- and C-band satellite receivers,</li> <li>- development of signal processing algorithms for millimeter-wave Doppler radar,</li> <li>- development of equipment and</li> </ul>

	<p>at the Department of Radiowave Propagation in Natural Media of the Institute of Radio-Physics and Electronics NASU</p>	<p>algorithms for microwave remote sensing of vegetation (trees, bushes, cereals). Actual wavebands: 10GHz, 32GHz, 140GHz.</p> <ul style="list-style-type: none"> <li>- development of microwave moisture sensors (Actual wavebands: 10GHz, 900MHz)</li> <li>- investigation of troposphere response on strong solar proton events (SPE). Evaluation of tropospheric aerosol influence on energy balance of atmosphere.</li> <li>- investigation of UHF electromagnetic wave propagation in the ionosphere and troposphere during SPE,</li> <li>- development of measuring receiver for L1 GPS signal.</li> <li>- investigation of tropospheric parameter influence on GPS signal propagation,</li> <li>- Numerical modeling of electromagnetic field distribution in the cartridges for adsorbent regeneration.</li> </ul>
<p><b><u>Responsibilities</u></b></p>	<ul style="list-style-type: none"> <li>- Programming (C++, Visual Delphi, Borland Pascal, Basic, Assembler),</li> <li>- Experience in Maple, Matlab, PCAD, OriginLab, CST Microwave Library, Microcap, EWB, etc.</li> <li>- Experience in MS-Office, Adobe Photoshop, Lightroom, etc.</li> <li>- Support of end-user systems,</li> <li>- HF electric circuit design end maintenance,</li> <li>- Participation in international conferences</li> <li>- Working as leader of small and medium teams.</li> <li>- Experience in conference and forum organizing</li> </ul>	
<p><b><u>Awards:</u></b></p>	<p>1995 IBM Students Scholarship</p> <p>2002-2005 research grant for young scientists of NAS of Ukraine</p> <p>2002 - Recipient of the IRE NASU Young Scientist Council Award</p> <p>2006 - Second Prize of the IX Baykal International School "Physical Processes in Space"</p> <p>2007 – Y. A. Sinelnikov Young Scientist Scholarship</p> <p>2008 - Winner of the 3<sup>st</sup> Regional competition "The Best Young</p>	

	<p>Scientist of the Kharkov Region”</p> <p>2011 – IEEE Travel Grant for attending the 21st International Conference on Electricity Distribution (CIRED-2011)</p> <p>2011 – URSI Travel Grant for attending the XXX URSI General Assembly and Scientific Symposium (URSI-2011)</p>
<b><u>Publications</u></b>	<p>More than 30 scientific papers have been published, including 3 patents and 14 papers presented at national and international conferences</p>
<b><u>Professional activities</u></b>	<p>Since 2003 Member of the IEEE Geoscience and Remote Sensing Society</p> <p>2003-2009 Elected Member of the Young Scientist Council of IRE NASU</p> <p>2003-2006 Member of the organizing committee of the annual Kharkov Young Scientist Conference</p> <p>2007 Co-chairman of the 7<sup>th</sup> Kharkov Young Scientist Conference “Radiophysics and Electronics”</p> <p>2007-2009 Vice-chairman of the Young Scientist Council of IRE NASU</p> <p>2008-2009 IEEE IRE-Kharkov Student Branch Mentor</p> <p>2008 Member of the organizing committee of the 12-th International Conference on Mathematical Methods in Electromagnetic Theory (MMET’08)</p> <p>2008 Co-chairman of the 8<sup>th</sup> Kharkov Young Scientist Conference “Radio-Physics, Electronics and Biophysics”</p> <p>2009-2010 responsible person of the innovation project “Device for sorbent treatment using electromagnetic field”  <a href="http://www.innovations.nas.gov.ua/Years/2009/912/Pages/default.aspx">http://www.innovations.nas.gov.ua/Years/2009/912/Pages/default.aspx</a></p> <p>2010-2011 External reviewer of M.S. thesis at specialization “Radiophysics and Electronics” (National Technical University “Kharkov Polytechnic Institute” )</p> <p>2011 Supervisor of M.S. thesis «Measuring GPS Receiver for the L1 Signal Range» (National Technical University “Kharkov Polytechnic Institute” )</p>

<b>REFERENCES:</b>	<p><b>Prof. Dr. Felix Kivva</b>, head of department “Radiowave propagation in natural media” IRE NAS of Ukraine. E-mail: <a href="mailto:kivva@ire.kharkov.ua">kivva@ire.kharkov.ua</a></p> <p><b>Prof. Dr. Alexander I. Nosich</b>, head of Laboratory of Micro and Nano-Optics IRE NAS of Ukraine. E-mail: <a href="mailto:alex@emt.kharkov.ua">alex@emt.kharkov.ua</a>, <a href="mailto:anosich@yahoo.com">anosich@yahoo.com</a></p> <p><b>Dr. Oksana V. Shramkova</b>, Marie Curie Senior Research Fellow School of Electronics, Electrical Engineering &amp; Computer Science Institute of Electronics, Communications and Information Technology Queen’s University Belfast E-mail: <a href="mailto:o.shramkova@gmail.com">o.shramkova@gmail.com</a>, <a href="mailto:o.shramkova@qub.ac.uk">o.shramkova@qub.ac.uk</a></p>
<b>Website</b>	<p><a href="http://www.linkedin.com/pub/yuriy-goncharenko/38/501/535">http://www.linkedin.com/pub/yuriy-goncharenko/38/501/535</a></p> <p><a href="http://www.paganelle.org.ua">http://www.paganelle.org.ua</a></p>

**Hobbies:** Rock-climbing (Best: 2A – Elbrus (5642m), 3A Peak Shogentsukova (4050m))  
 Speleology (Best: Caves Arabica /at “old bottom”, -287m/),  
 trekking, kayaking, traveling, photography

### Publications

**Journal papers:**

1	Radiometric receiver and principles for tropospheric layers detection	Bulletin of the Kharkov Polytechnical University, 2002r. №9 V.5, pp. 21-24 (in Russian)	A. A. Voronin Y. Goncharenko
2	Some information about atmospheric aerosol particle size, produced by strong solar flares	Radiophysics and Electronics, 2002, vol. 7, no 3, pp. 509-512 (in Russian)	F. Kivva Y. Goncharenko
3	New technology for sorbent regeneration	News of Power Engineering, 2003, no 1-2, pp. 26-31 (in Russian)	F. Kivva V. Gorobets Y. Goncharenko S. Zotoff M. Golovko
4	Some model for SPE influence on far tropospheric radio-wave propagation.	Bulletin of the Lviv National University, 2003, vol. 36, pp.128-133 (in Russian)	Y. Goncharenko F. Kivva
5	Evaluation of size of the Atmospheric Aerosol Particles in the Reflecting Layers Occurring after Intense Solar Flares	Telecommunications and Radio Engineering, 2003, Vol.59, Issue 3&4, pp.135-140 <b>(in English)</b>	Y. Goncharenko F. Kivva
6.	Experimental investigation of tropospheric radio-wave propagation during solar flare.	Geomagnetism and Aeronomy, 2003, vol. 43, no 5, pp. 669-672 (in Russian)	A. Shapiro Y. Goncharenko
7	Experimental investigation of SHF signal fluctuation during solar proton events	Telecommunications and Radio Engineering, 2006, vol. 63, no 12, pp. 1053-1067 <b>(in English)</b>	Y. Goncharenko V. Gutnik F. Kivva
8	Equipment for sorbent regeneration using high power electromagnetic field.	Technology and Design of Electrical Equipment, 2005, vol. 59, no 5, pp. 49-51 (in Russian)	F. Kivva V. Gorobets Y. Goncharenko S. Zotoff M. Golovko

9	Certain features of UHF propagation during solar proton events	Geomagnetism and Aeronomy, 2006, vol. 46, no 2, pp. 230-233 <b>(in English)</b>	Y. Goncharenko F. Kivva V. Gutrik
10	On the Doppler selection efficiency at shorter millimeter wavelengths	Radio Physics and Radio Astronomy, 2009, vol. 14, no 1, pp. 66-76 (in Russian)	V. Gutrik L. Sharapov V. Gorobets Y. Goncharenko
11	Doppler spectra of microwave signals scattered from hydrodynamic formations generated by moving surface objects	Radio Engineering, 2010, no 3, pp. 52-61 (in Russian)	V. Gutrik V. Gorobets F. Kivva Y. Goncharenko S. Zotov
12	Equipment for sorbent regeneration In the electromagnetic field	Science and Innovation, 2010, vol. 10, no 3, pp. 12-19 (in Russian)	F. V. Kivva, V. N. Gorobets, M. I. Golovko, S. M. Zotov, Y. V. Goncharenko, A. L. Kovorotniy, A. I. Govorischev
13	Radiowave Backscattering from Sea Surface Influence on Terahertz Radar Efficiency	Radio Engineering, 2010, no 6, pp. 15-22 (in Russian)	V.G. Gutnik, V.N. Gorobets, Y. V. Goncharenko, S. M. Zotov
14	Influence of water and water-acid aerosols on troposphere energy balance during sun proton events (SPE) in the high-altitude areas.	Journal of Applied Electromagnetism Vol. 13, No 3, 2011, pp 1-8 <b>(in English)</b>	A. L. Kovorotniy, Y. V. Goncharenko V. N. Gorobets

### **Conference papers:**

1	Radiometric system for tropospheric layer detection	International conference "IT: science, technology, health". Kharkov, 2002, pp. 422-423 (in Russian)	A.A. Voronin Y. Goncharenko
2.	Evaluation of the atmospheric aerosol particle size in the reflective layer produced by strong solar flares	International conference on Mathematical Methods in Electromagnetic Theory (MMET'02), Kharkov, 2002, pp. 620-622. <b>(in English)</b>	F. Kivva Y. Goncharenko
3	Investigation of strong solar flares influence on high tropospheric structure	13th International Crimean Conference "Microwave and Telecommunication Technology", Sebastopol, 2003. pp. 781 – 783.	Y.V. Gocharenko, F.V. Kivva
4	Experimental study of meteorological parameters variation using HF-signal during solar proton events	Fifth International Kharkov Symposium on Physics and Engineering of Microwaves, Millimeter and Sub-millimeter Waves, Kharkov, 2004. pp. 184-186. <b>(in English)</b>	Y. Goncharenko V.G. Gutnik F. V. Kivva
5	Experimental study of HF-signal variations during solar proton events	IEEE Antennas and Propagation Society International Symposium, Monterey, 2004, vol. 4, pp. 4444-4446. <b>(in English)</b>	Y. Goncharenko V. Gutnik F. Kivva

6	Some features of transatmospheric microwave propagation during SPE.	XXI Russian Conference «Radio-wave propagation» Yoshkar-Ola, 2005, pp. 323-327 (in Russian)	Y. Goncharenko F. Kivva L. Vilenchik
7	Resonator for accelerated sorbent regeneration in the HF electromagnetic field.	15 <sup>th</sup> International Crimean Conferences "Microwave & Telecommunication Technology", Sebastopol, 2005, pp. 838-839	Y. Goncharenko A. Govorishev V. Gorobets S. Zotoff M. Golovko
8	UHF signal structure changes during strong solar proton events	European Geoscience Union General Assembly, Vienna, 2006. pp. 655-656 <b>(in English)</b>	Y. Goncharenko F. Kivva V. Gutrik
9	About of the high-tropospheric aerosol particle nature in the reflective layer produced by strong solar flares	Proceedings IX conference "Physical Processes in Space", Irkutsk, 2006. pp. 236-238 (in Russian)	Y. Goncharenko F. Kivva L. Vilenchik
10	Evaluation of influence of sea surface backscattering on energy potential of millimeter-wave radar	International conference "Radiation and scattering of electromagnetic waves", Taganrog, 2007, pp. 353-356 (in Russian)	V. Gutnik V. Gorobets Y. Goncharenko S. Zotov
11	Efficiency of noise reduction in the millimeter-wave Doppler radar	XXII Russian Conference on Radio-wave Propagation, Loo, 2008, pp. 112-115 (in Russian)	Y. Goncharenko V. Gorobets F. Kivva L. Vilenchik
12	Using high-power electromagnetic energy for careful sorbent regeneration	International conference on Computer as a Tool EUROCON-2011, Lisbon, Portugal, 27-29 April, 2011 <b>(in English)</b>	Y. Goncharenko A. Govorishev V. Gorobets S. Zotoff M. Golovko
13	Equipment for adsorbent regeneration with application of high-power UHF electromagnetic field	21st International Conference on Electricity Distribution (CIRED-2011), Frankfurt, 6-9 June 2011 Paper 0231 <b>(in English)</b>	Y. Goncharenko V. Gorobets S. Zotov M. Golovko F. Kivva A. Govorishev
14	Increasing of the efficiency of interference suppression in mm-band Doppler radars	XXX URSI General Assembly and Scientific Symposium (URSI-2011), Istanbul, Turkey, 13-20 August 2011, paper 08.3 <b>(in English)</b>	Y. Goncharenko V. Gorobets V. Gutnik

### **Patentes:**

1	Device for drying granular dispersed substances	2010, UA-55254 F26B 3/00	V.N. Gorobets, F.V. Kivva S.M. Zotov, M.I. Golovko Y.V. Goncharenko A.L. Kovorotniy, A.I. Govorishev I.F. Domnin, S.I. Rimar
2	Device for drying granular dispersed substances	2011, UA-55348 F26B 3/00	V.N. Gorobets, F.V. Kivva S.M. Zotov, M.I. Golovko Y.V. Goncharenko A.L. Kovorotniy, A.I. Govorishev I.F. Domnin, S.I. Rimar

3	Equipment for high voltage transformers bushing drying	2011, UA-60628 F26B 5/04	V.N. Gorobets, F.V. Kivva S.M Zotov, M.I. Golovko Y.V. Goncharenko A.L. Kovorotniy, A.I. Govorishev
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