

 <p>Advanced Radio Technology Laboratory</p>	<p>■ <b>Contact information</b></p> <p>Professor : <a href="mailto:jkang@kaist.ac.kr">jkang@kaist.ac.kr</a> TEL : 7422</p> <p>Lab. : ITC bldg. (N1), 719 TEL : 7522</p> <p>Website : <a href="http://artlab.kaist.ac.kr">http://artlab.kaist.ac.kr</a></p>
<p>■ <b>Current state of the Lab. (in 2025 Spring Semester)</b></p> <p>Postdoctoral Fellows : 0      PhD Students: 10      Master's Student: 7</p>	
<p>■ <b>Research Areas</b></p> <p>The Advanced Radio Technology Laboratory (ART Lab) has researched advanced antenna technology to improve performance and spectral efficiency of communication systems. In particular, we mainly focused on machine learning based communication, wireless communication for autonomous vehicles, and future wireless systems. Specific research topics are given as follows.</p> <p>● <b>ML for Communications and Communications for ML</b></p> <p>ML driven communications have an advantage in handling the increasing volume of communication and computation costs. Recently, ART Lab has been working on federated learning, reinforcement learning, and problems related to spectrum usage efficiency.</p> <p>● <b>Wireless Communications for Autonomous Vehicles</b></p> <p>Autonomous vehicles have sparked tremendous research interest, such as V2X, IoV, UAV-assisted systems, and VEC. ART Lab is interested in dealing with huge traffic data in such communication systems, including energy-efficient task offloading over VEC systems and trajectory design in UAV-assisted networks.</p> <p>● <b>Future Wireless System</b></p> <p>ART Lab has been actively working on multiple-input multiple-output (MIMO), space division multiple access (SDMA), and intelligent surface systems (e.g. RIS) for future wireless communications. Also, we focus on 6G communication technology such as utilization of sub-THz band and spatial mode multiplexing.</p>	
<p>■ <b>Recommended courses &amp; Career after graduation</b></p> <p><b>Recommended courses</b> : Signal and Systems, Communication Engineering, <b>Probability and Statistics</b>, <b>Linear Algebra</b></p> <p><b>Career after graduation</b> : ① Professor ② Research institute (e.g. ADD, ETRI) ③ Company (e.g. Samsung Electronics, KT)</p>	<p>■ <b>Introduction to other activities besides research</b></p> <p>ART lab promotes friendship among students with :</p> <p>① Birthday parties, ② Summer / Winter workshop ③ Spring / Autumn picnic ④ Home-coming day</p>
<p>■ <b>Introduction to the Lab.</b></p> <p>ART Lab encourages a positive research environment in which lab members feel free to share their ideas. We spend our time in graduate school energetically, aided by professor's considerate guidance. Our laboratory is open to those who want to research in a supportive environment with promising students.</p>	
<p>■ <b>Recent research achievements (22~25)</b></p> <p>[1] <b>Projects</b> : Currently doing 13 projects (e.g. Samsung Electronics, Ministry of Science, ICT and Future Planning)</p> <p>[2] <b>Publications</b> : Journal Papers 21 / Conference papers 14 / Patents 37</p>	

