Department of Geoinformatic Engineering

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♣ Homepage :   http://geoinfo.inha.ac.kr

1. Introduction :

The education program of the Department of Geoinformatic Engineering covers Geographical Information System, Remote Sensing, Photogrammetry, Global Positioning System, Spatial Information Computing. At the graduate level, we aim to promote advanced knowledge and skills in Geoinformatics. Full time graduate students are expected to join a research lab and participate in research projects with the supervisor's guidance.

The department's research activities have gained highest reputation in Korea. In 2006 the department hosted the program office for Korean Land Spatialization Group, one of the VC-10 R&D program of the Korean Government with the total budget of $175m.In addition, professors in the department are actively leading to a lot of research projects and centers. Worldwide, the department are pursuing collaborations with international universities and research institutes and offering short-term training courses for foreign students.

2. Major :

Geoinformatic Engineering

3. Faculty Members

1) Lee, Kyu-Sung (이규성)

* Office : 4-308

* Tel : +82-32-860-7601

* E-mail : ksung@inha.ac.kr

* Homepage : http://rslab.inha.ac.kr/

* Educational Background :

 - B.Sc. : Konkuk Univ., 1984

 - M.Sc. : Iowa State Univ., USA, 1986

 - Ph.D. : Colorado State Univ., USA, 1990

* Research Area :

- Vegetative Remote Sensing

- Land use/cover change detection and mapping

- Extraction of Environmental Variable

- Hyperspectral Sensing and Field Spectroscopy

- Digital image processing

* Academic Works :

- Major publications :

    1. Land cover characteristics of airborne LiDAR intensity data: a case study, IEEE Geoscience and Remote Sensing Letters, 5(4), 801-805, 2008

    2. Design of near real-time land monitoring system over the Korean Peninsula, Journal of Geographic Information System Association of Korea, 16(4), 411-420, 2008

    3. Spectral characteristics of forest vegetation in moderate drought condition observed by laboratory measurements and spaceborne hyperspectral data, Photogrammetric Engineering and Remote Sensing, , 73(10), 1121-1127, 2007

2) Kim , Kye-Hyun (김계현)

* Office : 4-307

* Tel : +82-32-860-7602

* E-mail : kyehyun@inha.ac.kr

* Homepage : http://gis.inha.ac.kr/

* Educational Background :

- M.Sc. : Univ. of Arizona-Tucson, USA, 1986

- Ph.D. : Univ. of Wisconsin-Madison, USA, 1993

* Research Area :

- Environmental Information system

- Hydrologic Information system

- Marine Information System

- Natural Disaster Management system

* Academic Works :

- Book publications :

  1. Introduction to GIS, Daeyoungsa, 1998

  2. Spatial Analysis, Dooynagsa, 2003

  3. Environmental GIS, Munundang, 2007

- Major publications :

  1. GIS based optimal impervious surface map generation using various spatial data for urban nonpoint source management, Journal of Environmental Management, 206(1), 587-601, 2018

  2. Dynamic rate allocation and forwarding strategy adaption for wireless networks, IEEE Signal Processing Letter, 25(7), 1034-1038, 2018

  3. From K-pop to K-preparedness: Korea confronts disaster reduction, Disaster Prevention and Management: An International Journal, 26(3), 47-51, 2017

3) Kim, Byung-Guk (김병국)

* Office : 4-306

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* E-mail : byungkim@inha.ac.kr

* Homepage : http://www2.inha.ac.kr/~mapping

* Educational Background :

- M.Sc. : Univ. of Wisconsin-Madison, USA, 1986

- Ph.D. : Univ. of Wisconsin-Madison, USA, 1989

* Research Area :

- Digital Phorogrammetry

- UFID (Unique Feature Identifier) Application Technology

- Digital Photologging System

- Accurate DEM generation using ALS and SSS

* Academic Works :

- Major publications:

  1. Design of ubiquitous reference point for location service, Journal of Geographic Information System Association of Korea, 15, 301, 2007

2. Photograph database for highway facility management in mobile mapping system, Lecture Notes in Computer Science, LNCS4352 II, 606, 2007.

3. Construction and application of urban foundation facility electronic library in ubiquitous computing environment, 한국공간정보시스템학회논문지, 8, 27, 2006.

4) Park, Soohong (박수홍)

* Office : 4-304
* Tel : +82-32-860-7605
* E-mail : shpark@inha.ac.kr
* Homepage : http://git.inha.ac.kr
* Educational Background :
 - B.A. : Seoul National   University, 1989
 - M.A.: Seoul National University, 1991
 - Ph.D. : Univ. of South Carolina, USA, 1996
* Research Area :
- GIS/ITS Map Databases
- Spatial databases
- Spatial data structures
- Dynamic Spatial Modeling
* Academic Works :
- Major - publications :
    1. A multi-resolution database model for management of vector geodata in vehicle dynamic route guidance system, Journal of the Korea Society for Geospatial Information Science, 18, 101, 2010
    2. A blind vector digital watermarking for GIS using the closest pair of points, 정보과학회논문지, 36, 536, 2009
    3. A study of technical reference model of intelligent geospatial information, Journal of Geographic Information System Association of Korea, 17, 309, 2009

5) Kim, Taejung (김태정)

* Office : 4-303
* Tel : +82-32-860-7606
* E-mail : tezid@inha.ac.kr
* Homepage : http://ielab.inha.ac.kr
* Educational Background :
- B.Sc. : KAIST, Korea, 1991

- M.Sc. : UCL, UK, 1992
- Ph.D. : UCL, UK, 1996

∗ Research Area :
- Preprocessing of Remote Sensing Images
- 3D Reconstruction from Satellite/Aerial l/UAV Imagery
- Precise Sensor Modeling of Pushbroom/Perspective Imaging Systems
- Automated Orientation in Digital Photogrammetry
- Odometry and image-based navigation

∗ Academic Works :
- Major publications :
  1. Quantitative estimation and validation of the effects of the convergence, bisector elevation and asymmetry angles on the positioning accuracies of satellite stereo pairs. Photogrammetric Engineering and Remote Sensing, 82(8):625-633, 2016
  2. Fast and robust geometric correction for mosaicking UAV images with narrow overlaps, International Journal of Remote Sensing, 38(8-10):2557-2576, 2017
  3. Development of stereo visual odometry based on photogrammetric feature optimization, Remote Sensing, 11, 67, 2019

6) Park, Kwan-Dong (박관동)

∗ Office : 4-305

∗ Tel : +82-32-860-7604

∗ E-mail : kdpark@inha.ac.kr

∗ Educational Background :
- M.Sc. : Univ. of Texas at Austin
- Ph.D. : Univ. of Texas at Austin

∗ Research Area :
- Satellite Navigation
- GPS Geodesy
- Precision Surveys

∗ Academic Works :
- Major publications :
  1. Multi-constellation GNSS precise point positioning and prediction of propagation errors using singular spectrum analysis, Astrophysics and Space Science, 363, 2018
  2. Improving DGPS accuracy by considering the correlation of pseudorange correction and satellite elevation angle, Journal of Navigation, 70, 6, 2017
  3. Development and positioning accuracy assessment of single-frequency precise point

positioning algorithms by combining GPS code-pseudorange measurements with real-time SSR corrections, Sensors, 17, 6, 2017

7) Park, No-Wook (박노욱)

* Office : 4-311

* Tel : +82-32-860-7607

* E-mail : nwpark@inha.ac.kr

* Homepage : http://egl.inha.ac.kr

* Educational Background :

- B.Sc. : Seoul National University, 1997

- M.E. : Seoul National University, 1999

- Ph.D. : Seoul National University, 2004

* Research Area :

- Spatial Modeling using Geostatistics

- Remote Sensing of Environment

- Machine Learning for Pattern Recognition and Thematic Mapping

- Multi-Source/Sensor Spatial Data Fusion

* Academic Works :

- Major publications :

  1. Self-learning based land-cover classification using sequential class patterns from past land-cover maps, Remote Sensing, 9(9), 921, 2017

  2. Geostatistical integration of coarse resolution satellite precipitation product and rain gauge data to map precipitation at fine spatial resolutions, Remote Sensing, 9(3), 255, 2017

  3. Spatial estimation of classification accuracy using indicator kriging with an image-derived ambiguity index, Remote Sensing, 8(4), 320, 2017

4. Course List

Major	Course Code	Course	Credit	Taught in English
	GEO6002	Advanced Remote Sensing	3	O(flexible)
	GEO6003	Advanced Spatial Data Structure	3	O(flexible)
	GEO6004	Land Information System	3	X
	GEO6005	Environmental Information System	3	X
	GEO6006	Advanced GIS	3	O(flexible)
	GEO6018	Advanced Geodesy	3	X
	GEO6008	Analytical Photogrammetry	3	O(flexible)
	GEO6009	Spatial Database	3	O(flexible)
	GEO6011	Seminar in Geoinformatics	3	X
	GEO6019	Space Geodesy	3	X
	GEO6013	Advanced GPS	3	O(flexible)
	GEO6014	Methodologies in Regional Analysis	3	O(flexible)
	GEO6015	Advanced Adjustment Computations	3	X
	GEO6016	Computer vision for GeoInformatics	3	O(flexible)
	GEO6017	Advanced Geostatistics	3	O(flexible)
	GEO7002	3D Mapping Methodology	3	X
	GEO7003	Advanced Digital Photogrammetry	3	X
	GEO7004	Advanced UIS	3	X
	GEO7007	Advanced Spatial Analysis	3	X
	GEO7008	Spatial Multicriteria Decision Analysis	3	O(flexible)
	GEO7009	Geometric Correction of Satellite Images	3	O(flexible)
	GEO7011	Remote Sensing and Environment	3	O(flexible)
	GEO7012	Advanced Image Processing in Remote Sensing	3	O(flexible)
	GEO7013	Pattern Recognition	3	O(flexible)
	GEO7015	Statistical Estimation Theory	3	O(flexible)
	GEO7016	Advanced Astrodynamics	3	O(flexible)
	GEO7017	Multi-sensor Geoinformation fusion	3	O(flexible)
	GEO7018	Special Topics on GPS Errors		O(flexible)
	GEO7019	Advanced Machine Learning Algorithms		O(flexible)
	GEO7020	Geospatial information standard		X

5. Others

* History

- 1994.3, Department established
- 1994.3, First new students enrolled
- 1997.3, Graduate School founded
- 1998.2, First Graduates produced
- 1998.2, Geomatics Eng. Research Center established
- 2004.3, Image Research Division of Image Target Information RC established
  (Head: Prof. Lee, Kyu-Sung)
- 2004.4, Designated as Hub Univ. for National GIS Education
  (Director: Prof. Kim, Kye-Hyun)
- 2006.4, Selected as Brain Korea 21 Project, Next Generation GIS Manpower Development Team under BK21 Project
  (Director: Prof. Kim, Kye-Hyun)
- 2006.11, Designated as Korea Land Spatialization Group
  (Director. Prof. Kim, Byung-Guk)
- 2007.2, 10th Graduates produced
- 2009.04, Designated as Graduate School for Spatial Information Specialization
  (Director: Prof. Kim, Kye-Hyun)
- 2011.8, Designated as Graduate School for GNSS Professional Manpower Education
  (Director: Prof. Park, Kwan-Dong)
- 2013.3, Designated as National GNSS Research Center
  (Director: Prof. Park, Kwan-Dong)
- 2018.6, Designated as Center for CAS 500-1/2 Image Acquisition and Utilization Technology Development
  (Director: Prof. Kim, Taejung)