2nd International Conference on Stochastic Analysis and its Applications

May 28 Wednesday   Chair : Takashi Kumagai / Youngmee Kwon

All talks will be in Sangsan Mathematical Building #129, room 101.

Time	Session
8:30 ~	Registration
9:00 ~ 9:10	Opening Remark by President of KMS (Dohan Kim)
9:10 ~ 9:40	Zhen-Qing Chen (Univ. of Washington) Stationary distributions for diffusions with inert drift
9:50 ~ 10:20	Masatoshi Fukushima (Osaka Univ.) On unique extension of a time changed transient reflecting Brownian Motion
10:20 ~ 10:50	Coffee Break
10:50 ~ 11:20	Kyeong-hun Kim (Korea Univ.) L^p theory of Stochastic Partial Differential Equations
11:30 ~ 12:00	Jason Swanson (Univ. of Central Florida) A change of variable formula with Itô correction term
12:00 ~ 2:00	Lunch (Jahayeon Restaurant)
2:00 ~ 2:30	Xiaowen Zhou (Concordia Univ.) The exit problem of a partially reflected spectrally negative Lévy process
2:40 ~ 3:10	Tusheng Zhang (Univ. of Manchester) SPDEs with reflection : strong Feller properties and Harnack inequalities
3:20 ~ 3:50	Kazuhiro Kuwae (Kumamoto Univ.) On double Feller property
3:50 ~ 4:20	Coffee Break
4:20 ~ 4:50	HyeongIn Choi (Seoul National Univ.) Approximate HJM Term Structure Model with Jump
5:00 ~ 5:30	Jeong-Han Kim (Yonsei Univ.) Random Graphs, Random Regular Graphs and Couplings

◇ Registration will start at 8:30 am. Please bring your passport. If you get travel support from the conference, bring invoice (or receipt) of your ticket too.

◇ Professor Dohan Kim, the president of Korean Mathematical Society, will give an opening remark for 2ICSAA.

◇ Conference Lunch is reserved in Jahayeon Restaurant (2nd floor) at 12:00.

May 29 Thursday   Chair : Renming Song

All talks will be in Sangsan Mathematical Building #129, room 101.

9:10 ~ 9:40	Zhi-Ming Ma (Chinese Academy of Sciences) On the Structure of Non-symmetric Dirichlet forms
9:50 ~ 10:20	Niels Jacob (Univ. of Wales Swansea) A Theorem of Schoenberg, an Observation of P.A.Meyer, and Dirichlet Forms Related to Certain Symmetric Lévy Processes
10:20 ~ 10:50	Coffee Break
10:50 ~ 11:20	René Schilling (TU Dresden) Stochastic Processes and their Symbols
11:30 ~ 12:00	Takashi Kumagai (Kyoto Univ.) Uniqueness of Brownian motion on Sierpinski carpets
12:00 ~ 12:30	Lunch (Duraemidam Restaurant)
12:30 ~ 9:00	Excursion

◇ Conference Lunch is reserved in Duraemidam Restaurant (5th floor) at 12:00. Due to the excursion starting at 12:30, there will be one fixed menu (Bibimbab: mixed rice).

◇ There will be the conference excursion in the afternoon. The bus will leave Sangsan Mathematical Bld #129 at 12:30.

May 30 Friday   Chair : Zhen-Qing Chen / René Schilling

All talks will be in Sangsan Mathematical Building #129, room 101.

Time	Speaker / Talk
9:10 ~ 9:40	Gerald Trutnau (Univ. of Bielefeld) On the Structure of Non-symmetric Dirichlet forms
9:50 ~ 10:20	Yuichi Shiozawa (Ritsumeikan Univ.) Central limit theorem for branching Brownian motions in random environment
10:20 ~ 10:50	Coffee Break
10:50 ~ 11:20	Byron Schmuland (Univ. of Alberta) Reversible Fleming-Viot processes
11:30 ~ 12:00	Rodrigo Bañuelos (Purdue Univ.) Finite dimensional distributions
12:00 ~ 2:00	Lunch (Jahayeon Restaurant)
2:00 ~ 2:30	Qingyang Guan (Loughborough Univ.) Boundary Harnack inequality of regional fractional Laplacian
2:40 ~ 3:10	Renming Song (Univ. of Illinois) Heat kernel estimates for killed stable processes and censored stable processes
3:20 ~ 3:50	Mateusz Kwasnicki (Wroclaw Univ. of Tech.) Intrinsic ultracontractivity for isotropic stable processes in unbounded domains
3:50 ~ 4:20	Coffee Break
4:20 ~ 4:50	Zoran Vondraček (Univ. of Zagreb) Two results on subordinate Brownian motion
5:00 ~ 5:30	Tomasz Grzywny (Wroclaw Univ. of Tech.) Intrinsic ultracontractivity for symmetric Lévy processes
5:30 ~	Banquet

◇ Conference Lunch is reserved in Jahayeon Restaurant (2nd floor) at 12:00.

◇ There will be a conference Banquet (buffet) at the 4th floor of Sangsan Mathematical Bld #129. Wine (and others) will be served from 5:30 p.m. Dinner will be served at 6:00 p.m. All speakers are invited with no charge.

May 31 Saturday   Chair : Zoran Vondraček / Hyunjai You

All talks will be in Sangsan Mathematical Building #129, room 101.

9:10 ~ 9:40	Michal Ryznar (Wroclaw Univ. of Tech.) Relativistic process in a halfspace
9:50 ~ 10:20	Pawel Sztonyk (TU Dresden) Estimates of tempered stable densities
10:20 ~ 10:50	Coffee Break
10:50 ~ 11:20	Jacek Malecki (Wroclaw Univ. of Tech.) Bessel Potentials, Hitting Distributions, and Green Functions
11:30 ~ 12:00	Fuzhou Gong (Chinese Academy of Sciences)
12:00 ~ 2:00	Lunch (Jahayeon Restaurant)
2:00 ~ 2:30	Masayoshi Takeda (Tohoku Univ.) L^p-independence of spectral bounds of Feynman-Kac semigroups
2:40 ~ 3:10	Krzysztof Bogdan (Wroclaw Univ. of Tech.) Schrödinger perturbations of transition densities
3:20 ~ 3:50	Masanori Hino (Kyoto Univ.) Sets of finite perimeter and Hausdorff measures on the Wiener space
4:00 ~ 4:30	Toshihiro Uemura (Univ. of Hyogo) Derivation property and L^p-Liouville property for non-local operators
4:30 ~	Annoucement

◇ Conference Lunch is reserved in Jahayeon Restaurant (2nd floor) at 12:00.

◇ There will be the first anouncement of 3rd International Conference on Stochastic Analysis and its Applications after the talks.

Title and Abstract of Talks

Finite dimensional distributions

Rodrigo Bañuelos, Purdue University, USA

We will discuss how many interesting properties of various spectral theoretic objects for the Laplacian, the fractional Laplacian, and other Lévy operators, reduce to properties of finite dimensional distributions (multiple integrals) which can then be studied by elementary means.

Schrödinger perturbations of transition densities

Krzysztof Bogdan, Wroclaw University of Technology, Poland

Under a condition of conditional smallness of time-inhomogeneous Schrödinger perturbations with respect to an arbitrarily given transition density, the perturbed transition density is shown to be comparable. Explicit estimates and applications are given.
A joint work with Tomasz Jakubowski and Wolfhard Hansen.

Stationary distributions for diffusions with inert drift

Zhen-Qing Chen, University of Washington, USA

Consider a reflecting diffusion in a domain in R^d that acquires drift in proportion to the amount of local time spent on the boundary of the domain. We show that the stationary distribution for the joint law of the position of the reflecting process and the value of the drift vector has a product form. Moreover, the first component is the symmetrizing measure on the domain for the reflecting diffusion without inert drift, and the second component has a Gaussian distribution. We also consider processes where the drift is given in terms of the gradient of a potential. Joint work with R. Bass, K. Burdzy and M. Hairer.

Approximate HJM Term Structure Model with Jump

HyeongIn Choi, Seoul National University, Korea

A finite dimensional multi-factor HJM term structure model with jump is introduced. In this model the evolution of the forward curve is confined to a pre-determined finite dimensional linear function space -- for example, a space spanned by finite number of orthogonal polynomials. The risk neutrality condition is expressed in terms of minimization problem in the function space. When examined with the actual U.S. Treasury Bond data of the past ten years, we found that 4 or 5 orthogonal polynomials give very satisfactory result in terms of bond error even in the present of jumps: namely, the maximum error compared with the usual HJM is typically less than 1 bp. One advantages of this model is that it is very easy to fit any correlation matrix, which was not easily done in practice with the term structure models devised so far. Other advantage of this model is its linear nature that makes it better amenable to many linear techniques like regression analysis and etc. This model can also be profitably used in the stress test situation in the market risk management system.

On unique extension of a time changed transient reflecting Brownian motion

Masatoshi Fukushima, Osaka University, Japan

For $d \geq 3$, we consider a unbounded domain D in R^d containing an infinite part of a cone with ∂D being continuous. Then $(\frac{1}{2}D, W^{1,2}(D))$ is a transient regular Dirichlet form on $L^2(\overline{D}; dx)$, where $D(u,v) = \int_D \nabla u(x) \cdot \nabla v(x) dx$. The symmetric diffusion process X associated with this form is the symmetric reflecting Brownian motion on $\overline{D}$, which has infinite life time and approaches to the point at infinity $\triangle$ of $\overline{D}$ as time goes to infinity.
We can then perform a time change of X by its additive functional with Revuz measure $m(dx) = m(x)dx$ for a strictly positive integrable function m on D. The time changed process Y has finite lifetime almost surely. In this talk, we are concerned with all the symmetric diffusions that extend Y.
We shall prove that, under a certain condition on D allowing the case that ∂D is compact, such as extension is unique, which can be obtained through one-point darning of Y at $\triangle$. The key of the proof is to show that the active reflected Dirichlet space of Y is the space $BL(D) = \left\{ u \in L^2_{loc}(D) : \frac{\partial u}{\partial x_i} \in L^2(D), 1 \leq i \leq d \right\}$ of Beppo Levi functions on D intersected with $L^2(D; m)$ and that the latter is the linear span of $W^{1,2}_e(D) \cap L^2(D; m)$ and constant functions.

Fuzhou Gong, Chinese Academy of Sciences,

Boundary Harnack inequality of regional fractional Laplacian

Qingyang Guan, Loughborough University, UK

We talk on boundary Harnack inequalities of regional fractional Laplacians which are generators of a class of stable-like processes on open sets. These boundary Harnack inequalities were first proved for the homogeneous case by Bogdan, Burdzy and Chen.

Intrinsic ultracontractivity for symmetric Lévy processes

Tomasz Grzywny, Wroclaw University of Technology, Poland

We consider the symmetric Lévy process $\{X_t\}_{t \geq 0}$, which has the continuous transition density $p(t,x,y)$. We assume that for any $\delta > 0$ there exists a constant $c = c(\delta) > 0$ such that $p(t,x,y) \leq c$ for $|x-y| > \delta$ and $t > 0$.

Our basis conditions about the Lévy measure ν of the process X_t are :

(A1) For every $x \in R^d$: $|x| = 1$, $\gamma \in (0, \pi/2]$ and $r > 0$,

$$\nu(\Gamma_\gamma(x) \cap B(0,r)) > 0.$$

(A2) For every $x \in R^d$ and $r > 0$, $\nu(B(x,r)) > 0$.

Where $\Gamma_\gamma(x)$ is a cone with vertex at 0 and the aperture 2γ , which axis goes through the point x.

By $\{P_t^D\}$ we denote the semigroup generated by the process $\{X_t\}_{t \geq 0}$ killed on exiting of a set D. We prove the intrinsic ultracontractivity for semigroup $\{P_t^D\}$ under conditions about the behavior of the Lévy measure (A1) and (A2). The following theorem is main result.

Theorem 1. Let D be a bounded open set. The semigroup $\{P_t^D\}$ is intrinsically ultracontractive in the following two cases :

    a) The Lévy measure satisfies (A1) and D is a connected Lipschitz set.

    b) The Lévy measure satisfies (A2).

Sets of finite perimeter and Hausdorff measures on the Wiener space

Masanori Hino, Kyoto University, Japan

According to the geometric measure theory on the Euclidian space, the integration by parts formula for a set of finite perimeter is expressed by way of the surface measure that is provided by the 1-codimensional Hausdorff measure on the reduced boundary.

In this talk, we discuss its counterpart for the abstract Wiener space and give a representation of the surface measure by the Hausdorff measure on some suitable set that may be smaller than the topological boundary.

A Theorem of Schoenberg, an Observa-tion of P.A.Meyer, and Dirichlet Forms Related to Certain Symmetric Lévy Pro-cesses

Niels Jacob, University of Wales Swansea, UK

The theorem of Scoenberg in our mind is the one characterizing metric spaces which can be isometrically embedded into Hilbert spaces. Implicitly this is behind an observation of P.A.Meyer on how to represent the carre du champ of a symmetric Lévy process as an infinite sum of squares. For a large class of symmetric Lévy processes we give a direct construction of this representation and will prove en passant Schoenberg's theorem (in the cases under discussion). Our construction promises the possibility to develop an "infinite dimensional differential geometry" associated with these Lévy processes,

This is joint work with Victoria Knopova.

Random Graphs, Random Regular Graphs and Couplings

Jeong-Han Kim, Yonsei University, Korea

The study of random regular graphs, started in late 70's, has recently attracted much attention.

Main questions in this area have been whether the random regular graph contains a perfect matching, a Hamilton cycle, and a Hamilton decomposition. These properties are closely related to the contiguity of random models. Roughly speaking, two models are contiguous if they are essentially the same. For example, one may consider the uniform random 3-regular graph and the union of three independent random perfect matchings, and ask whether the two models are essentially the same or not. We will discuss contiguity of various random regular graph models.

We will also introduce some attempts to study random (hyper)graphs by means of random regular

(hyper)graphs. In particular, we will discuss recent improved bounds for Shamir's problem regarding when the random uniform hypergraph contains a perfect matching.

L^p theory of Stochastic Partial Differential Equations

Kyeong-Hun Kim, Korea University, Korea

SPDEs are equations having stochastic noises in the equations. Those are used, for instance, to describe natural phenomena which can't be modeled by deterministic equations due to incomplete knowledge, uncertainity in the measurments or existence of randomness in the phenomena. For instance, Stochastic Navier-Stokes Equation is used to describe the motion of a fluid with random external forces.

In this talk, we present the unique solvability of 2nd order parabolic SPDEs in Sobolev spaces.

Uniqueness of Brownian motion on Sierpinski carpets

Takashi Kumagai, Kyoto University, Japan

We prove that, up to scalar multiples, there exists only one Dirichlet form on a generalized Sierpinski carpet that is invariant with respect to the local symmetries of the carpet. Consequently for each such fractal the law of Brownian motion is uniquely determined and the notion of Laplacian is well defined, which has been a long open problem in this area. This is a joint work with M.T. Barlow, R.F. Bass and A. Teplyaev.

On double Feller property

Kazuhiro Kuwae, Kumamoto University, Japan

We investigate the double Feller property of each transformed semigroup of Feynman-Kac or Girsanov type under the double Feller property of the semigroup of Markov processes.

Intrinsic ultracontractivity for isotropic stable processes in unbounded domains

Mateusz Kwasnicki, Wroclaw University of Technology, Poland

The potential theory for the isotropic α - stable process with $\alpha < 2$ attracted considerable attention during last decade. I would like to present some recent results concerning this process in unbounded domains. The intrinsic ultracontractivity of the semigroup of such process will be discussed. I will also present two-sided estimates of the first eigenfunction of this semigroup. The main tool used to obtain these results is the uniform boundary Harnack inequality for α -harmonic functions. The talk will be based on two papers, "Estimates and structure of α -harmonic functions" (Bogdan, Kulczycki, Kwasnicki, 2008) and my preprint article on intrinsic ultracontractivity.

On the Structure of Non-symmetric Dirichlet forms

Zhi-Ming Ma, Chinese Academy of Sciences, China

I shall report our results on the structure of non-symmetric Dirichlet forms. The talk is based on several joint papers of Zechun Hu, Zhi-Ming Ma and Wei Sun. Our research in this direction has been conducted for several years. Very recently we obtain some significant progress which leads to, among other things, a complete characterization of non- symmetric Dirichlet forms on R^d . The topics of my talk will include the Beurling-Deny formula for semi-Dirichlet forms, LeJan's transformation rule for non-symmetric Dirichlet forms on Lusin mesurable spaces, and Lévy-Khintchine formula for non-symmetric Dirichlet forms on R^d.

Bessel Potentials, Hitting Distributions, and Green Functions

Jacek Malecki, Wroclaw University of Technology, Poland

Our aim is to find explicit formulas for basic objects pertaining to the potential theory of the operator $(I-\triangle)^{\alpha/2}$, which is based on Bessel potentials $J^\alpha = (I-\triangle)^{-\alpha/2}$, $0 < \alpha < 2$. We compute the harmonic measure of the half-space and obtain a concise form for the corresponding Green function of the operator $(I-\triangle)^{\alpha/2}$.

Relativistic process in a half-space

Michal Ryznar, Wroclaw University of Technology, Poland

The purpose of this talk is to present optimal estimates for the Green function of a half-space of the relativistic α - stable process with parameter m on R^d space. This process has an infinitesimal generator of the form $mI-(m^{2/\alpha}I-\Delta)^{\alpha/2}$, where $0<\alpha<2$, $m>0$, and reduces to the isotropic α - stable process for $m=0$. Its potential theory for open bounded sets has been well developed throughout the recent years, however almost nothing was known about the behavior of the process on unbounded sets. We intend to fill this gap and provide two-sided sharp estimates for the Green function for a half-space. As a byproduct we obtain some improvements of the estimates known for bounded sets specially for balls.

Our approach combines the recent results about an explicit integral formula for the m-resolvent of a half-space, with estimates of the transition densities for the killed process on exiting a half-space.

Stochastic Processes and their Symbols

René Schilling, TU Dresden, Germany

Many Feller processes are generated by pseudo differential operators having negative definite symbols. We give a brief survey on this topic and then move on to discuss to which class of processes one can associate a symbol. We will then use the symbols to derive various path properties of the processes under consideration.

Central limit theorem for branching Brownian motions in random environment

Yuichi Shiozawa, Ritsumeikan University, Japan

We consider a branching Brownian motion in space-time random environment associated with the Poisson random measure. When the randomness of the environment is moderated by that of the Brownian motion, we prove that the population density satisfies a central limit theorem and that the growth rate of the population is the same as its expectation with strictly positive probability. We also study the decay rate for the density at the most populated site and for the replica overlap. On the other hand, when the randomness of the environment dominates, we show that the growth rate of the population is strictly less than its expectation almost surely, in connection with Brownian directed polymers in random environment introduced by Comets and Yoshida.

Heat kernel estimates for killed stable processes and censored stable proc-esses

Renming Song, University of Illinois, USA

In this talk I will present recent results on two-sided sharp estimates on the heat kernel of killed stable processes and censored stable processes. This talk is based on some recent papers with Z.-Q. Chen and Panki Kim.

A change of variable formula with Itô correction term

Jason Swanson, University of Central Florida, USA

We consider the solution $u(x,t)$ to a stochastic heat equation. For fixed x, the process $F(t)=u(x,t)$ has a nontrivial quartic variation. It follows that F is not a semimartingale, so a stochastic integral with respect to F cannot be defined in the classical Itô sense. We show that for sufficiently differentiable functions $g(x,t)$, a stochastic integral $\int g(F(t),t)dF(t)$ exists as a limit of discrete, midpoint style Riemann sums, where the limit is taken in distribution in the Skorohod space of cadlag functions. Moreover, we show that this integral satisfies a change of variables formulas with a correction term that is an ordinary Itô integral with respect to a Brownian motion that is independent of F.

Estimates of tempered stable densities

Pawel Sztonyk, TU Dresden, Germany

Estimates of densities of convolution semigroups of probability measures are given under specific assumptions on the corresponding Lévy measure and the Lévy-Khinchin exponent. The assumptions are satisfied, e.g., by tempered stable semigroups of J. Rosinski.

Reversible Fleming-Viot processes

Byron Schmuland, University of Alberta, Canada

What forces the mutation operator of a reversible Fleming-Viot process to be uniform? Our explanation is based on Handa's result that reversible distributions must be quasi-invariant under a certain flow, making the mutation operator satisfy a cocycle identity.

We also apply these ideas to a system of interacting Fleming-Viot processes as defined and studied by Dawson, Greven, and Vaillancourt.

L^p-independence of spectral bounds of Feynman-Kac semigroups

Masayoshi Takeda, Tohoku University, Japan

Let $\mathcal{L}$ be an m-symmetric Markov generator and μ a signed measure in the Kato class. We consider a Schrödinger type operator $H^\mu = -\mathcal{L} + \mu$ on $L^p(m)$. We prove that under certain conditions for the Markov semigroup generated by $\mathcal{L}$ and the potential μ, the L^p-spectral bound of H^μ is independent of p if and only if the L^2-spectral bound is non-positive.

A remark on the generator of a right-continuous Markov process

Gerald Trutnau, University of Bielefeld, Germany

Given a right-continuous Markov process $(X_t)_{t \geq 0}$ on an second countable metrizable space E with transition semigroup $(p_t)_{t \geq 0}$, we prove that there exists a σ-finite Borel measure μ with full support on E, and a closed and densely defined linear operator $(\mathcal{L}_p, D(\mathcal{L}_p))$ generating $(p_t)_{t \geq 0}$ on $L^p(E; \mu)$. In particular, we solve the corresponding Cauchy problem in $L^p(E; \mu)$ for any initial condition $u \in D(\mathcal{L}_p)$. Furthermore, for any real $\beta > 0$ we show that there exists a generalized Dirichlet form which is associated to $(e^{-\beta t} p_t)_{t \geq 0}$, $\beta > 0$, is μ-special standard then all results from generalized Dirichlet form theory become available, and Fukushima's decomposition holds for $u \in D(\mathcal{L}_2)$. If $(X_t)_{t \geq 0}$ is transient, then β can be chosen to be zero. (This is joint work with Michael Röckner.)

Derivation property and L^p-Liouville property for non-local operators

Toshihiro Uemura, University of Hyogo, Japan

An integral type of derivation property for a non-local operator is given. As an application, we will also show that an L^p-Liouville property holds for the operator. This is a joint work with Jun Masamune.

Two results on subordinate Brownian motion

Zoran Vondraček, University of Zagreb, Croatia

In this talk I will discuss two results concerning subordinate Brownian motion. The first result shows that the natural extension of a harmonic function of a SBM Y in R^{d-1} is a harmonic function of a diffusion X in R^d whose trace on R^{d-1} is Y. The converse also holds true. In the second part of the talk I will revisit the result saying that for open set D with a "nice" boundary, the SBM (with no continuous part) does not hit the boundary upon exiting D, and will give an explanation involving the corresponding subordinate killed BM.

SPDEs with reflection : strong Feller properties and Harnack inequalities

Tusheng Zhang, University of Manchester, UK

In this talk, I will present some recent results on strong Feller properties and Harnack inequalities for solutions of SPDEs with reflection. As an application of the Harnack inequality, a Varadhan type small time symptotics will also be discussed.

The exit problem of a partially reflected spectrally negative Lévy process

Xiaowen Zhou, Concordia University, Canada

This talk concerns a stochastic process obtained by partially reflecting a spectrally negative Lévy process from its running maximum. Applying the excursion theory we want to study the one-sided and two-sided exit problems for such a process. We will derive expressions for solutions to the exit problems. We will also point out its possible applications in actuarial mathematics.
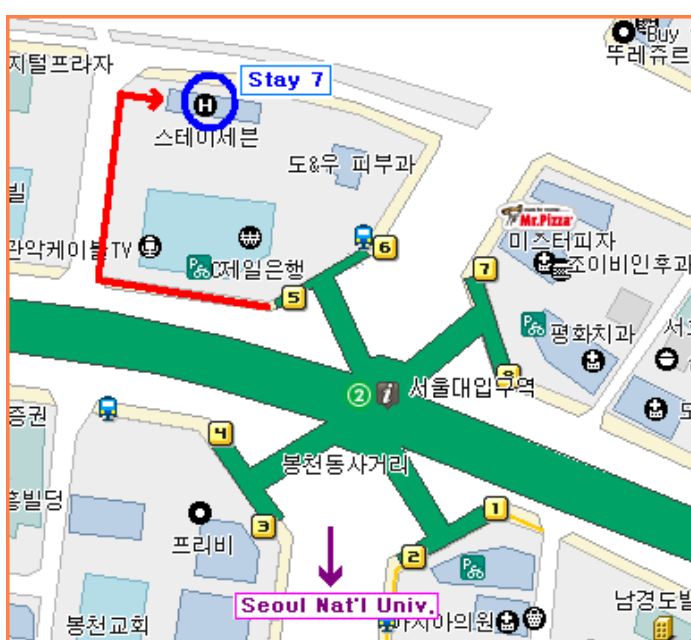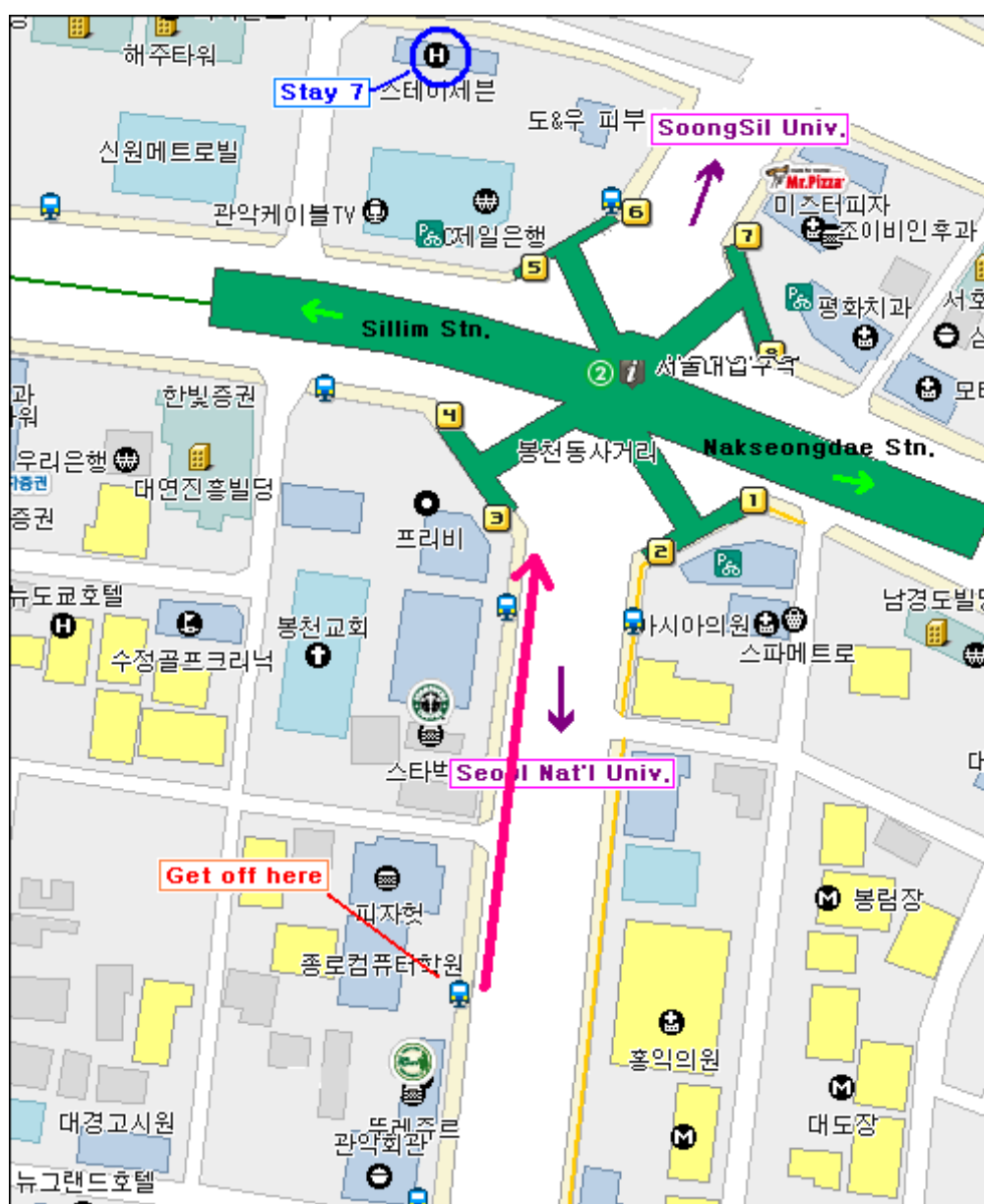
Direction to Stay 7 Residence Hotel

1. Incheon International Airport → Gwanak-gu Office Station (it is also called Seoul National Univ. Station)
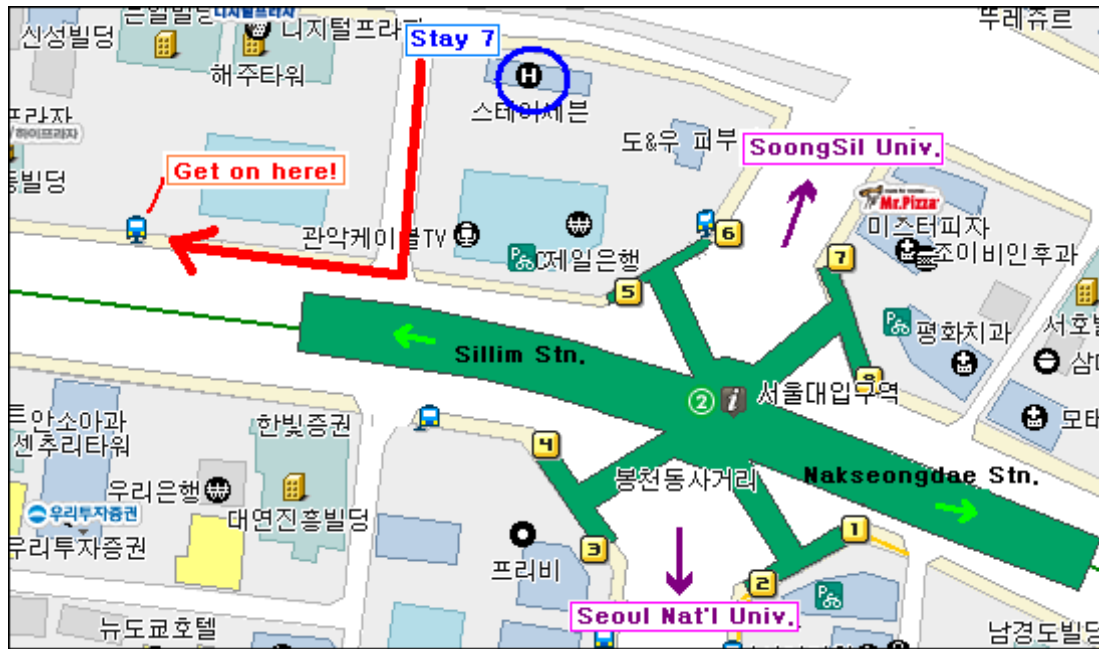
:Take the Airport Limousine Bus (No. 603) at the bus stop 6B, 13A to Seoul National Univ. Station. Bus fare is 8000 won(≒ USD 8). Get off at Gwanak-gu Office (one stop before the Main Gate of SNU).

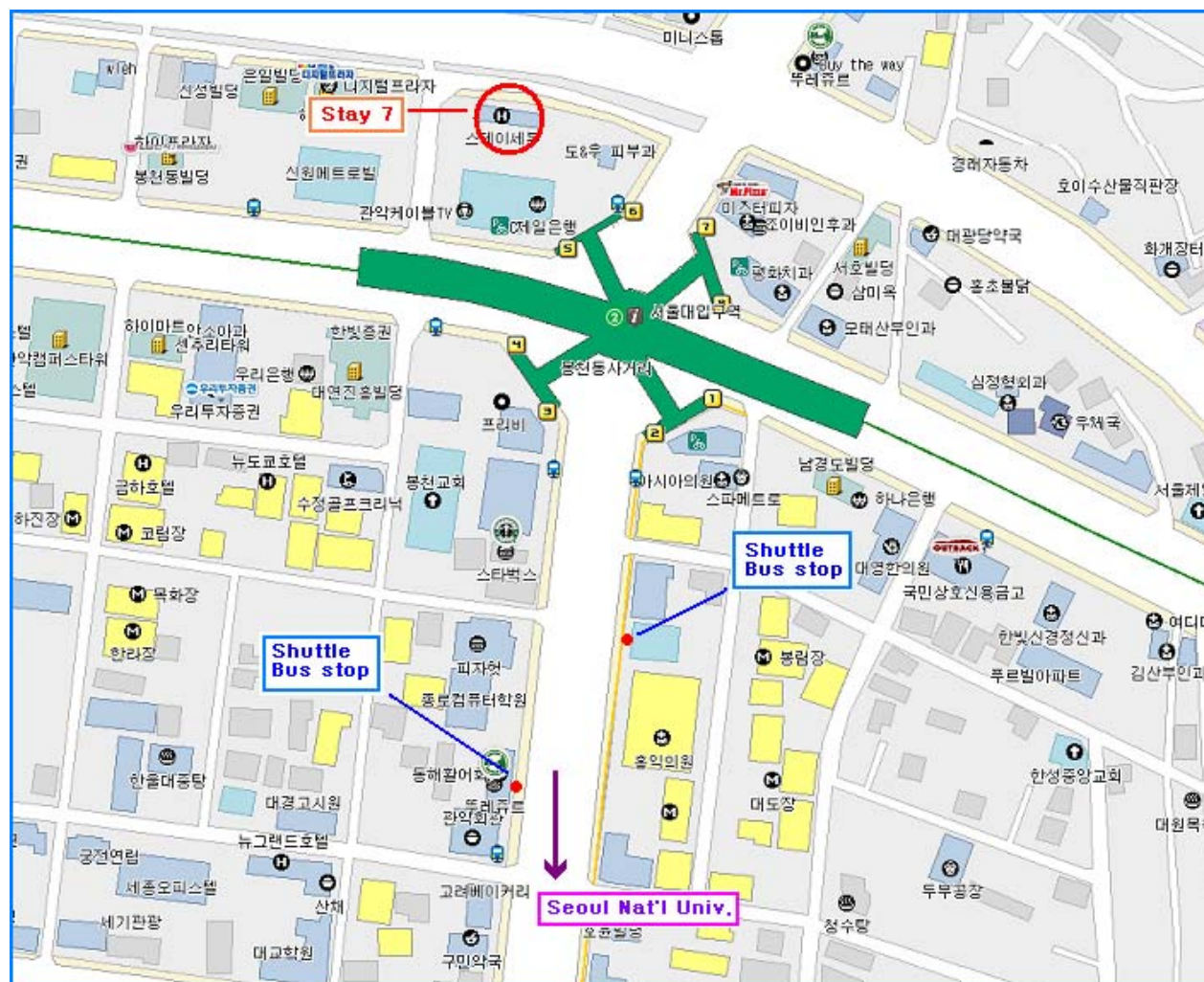2. Gwanak-gu Office Station (Seoul National Univ. Station) → SNU Stay 7 Residence Hotel
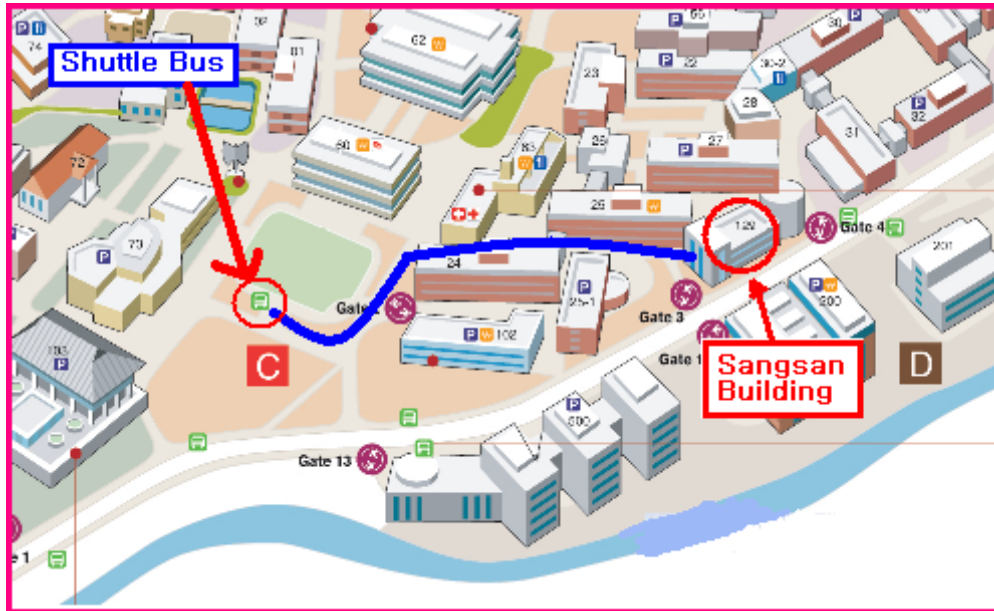
:About 5 minutes walk.

Direction from Stay 7 Residence Hotel to Incheon International Airport.
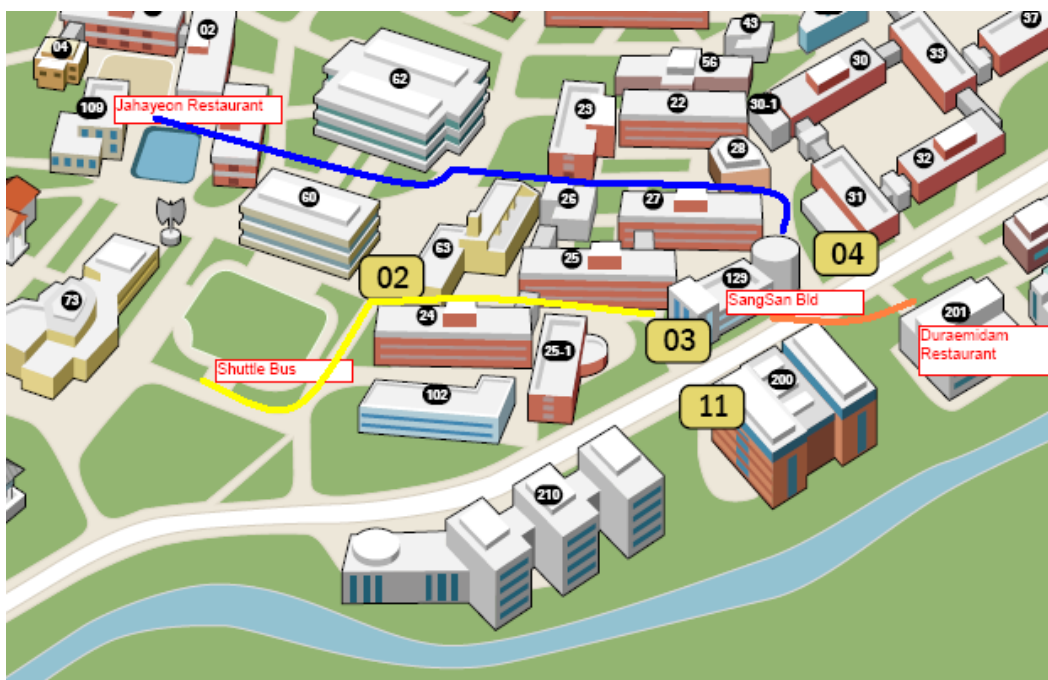

Direction from Stay 7 Residence Hotel to SNU : Take SNU shuttle bus at the location in the picture below (left shuttle Bus stop).

Direction from Shuttle Bus Stop to Sangsan Mathematical Building #129

To return to Stay7 Residence Hotel, take SNU shuttle bus at the location in the picture below.

The locations of Conference Restaurants

Jahayeon Restaurant's Menu

Korean – style dishes

Rice mixed with assorted vegetables
Boiled Mackerel
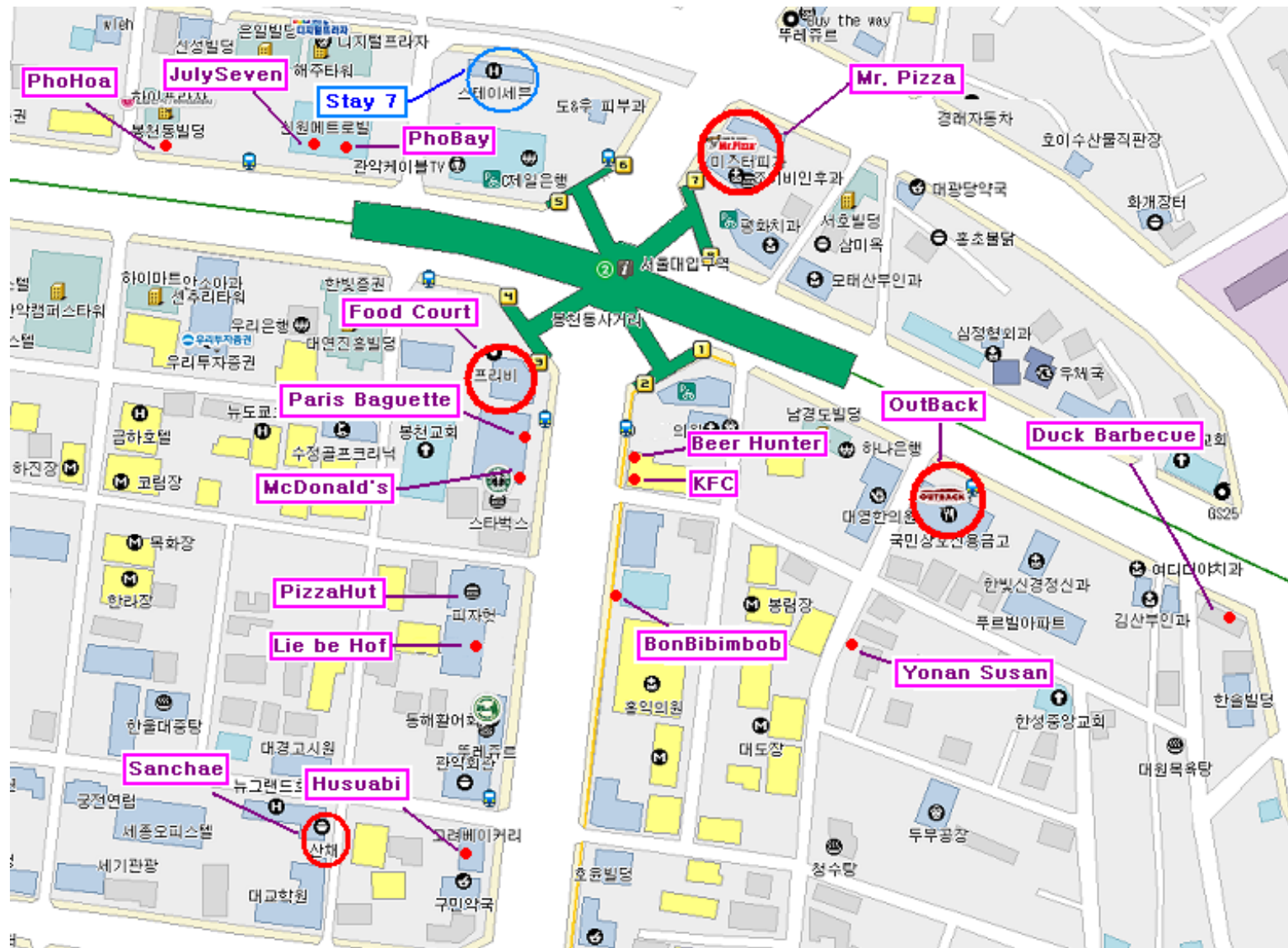Bulgogi (sliced and seasoned meat)
Grilled salmon & soybean paste stew

Western – style dishes

Pork cutlet
Lunch special
Cajun chicken salad
Shrimp pilaff
Chicken a la kive
Beef roll cutlet
Roasted beef

Japanese – style dishes

Pollack soup
Rice topped with seafood
Ya-ki U-dong

Restaurants near Stay 7

Bon Bibibbab (본비빔밥) : Bibimbab (Korean food)

Beer Hunter (비어헌터) : Drinking house

Dongchunhong(동천홍) : Chinese restaurant

Duck Barbecue : Duck barbecue

Food Court (Egg Yellow) : Food court

Husuabi (허수아비) : Pork cutlet in japanese style

July Seven : Italian restaurant

KFC : Hamburger, Chicken

Liebe Hof (리베호프) : Drinking house

Manrijangsung (만리장성) : Chinese restaurant

Mcdonald's : Hamburger

Mr.Pizza (미스터피자) : Pizza

Outback Steak House : Steak

Paris Baguette (파리바게뜨) : Bread, Coffee

Pattaya (파타야) : Tai cuisine

PhoBay (포베이) : Viettnam rice noodle

PhoHoa (포호아) : Viettnam rice noodle

Pizza Hut (피자헛) : Pizza

Sanchae (산채) : Bibimbab

Yonan Susan (연안수산) : Japanese raw fish dish