

- Collaborative works are presented by the underlined authors. The talks with \* mark are presented through document camera, while  $\flat$  marks denote presentations on whiteboards. The speakers with  $\star$  marks are professors emeriti.

## Functional Equations

September 25th (Thu) Conference Room V

### 9:00–12:00

- 05-01-0044  
1 Hiroshi Ogawara (Kumamoto Univ.) Differential transcendency of a formal Laurent series satisfying a rational linear  $q$ -difference equation ..... 10
- 05-01-0050  
2 Junya Nishiguchi (Kyoto Univ.) Stabilization of unstable steady solutions by delayed feedback control: Approach by Lambert W function ..... 10
- 05-01-0024  
3 Kazuki Hiroe (Josai Univ.) Local Fourier transform and blowing up ..... 10
- 05-01-0019  
4 Kohei Iwaki (Kyoto Univ.) On WKB theoretic transformations for Painlevé transcendents on degenerate Stokes segments ..... 10
- 05-01-0027  
5 Hiroshi Yamazawa (Shibaura Inst. of Tech.) Existence of holomorphic and singular solutions of  $q$ -analogue of Briot–Bouquet type difference-differential equations ..... 10
- 05-01-0031  
6 Hiroshi Yamazawa (Shibaura Inst. of Tech.)  $q$ -Analogue of summability of formal solutions of some linear  $q$ -difference-differential equations ..... 10  
Hidetoshi Tahara (Sophia Univ.)
- 05-01-0002  
7 Tetsutaro Shibata (Hiroshima Univ.)\* Asymptotic behavior of the bifurcation diagrams for semilinear problems with cubic-like nonlinearity ..... 10
- 05-01-0059  
8 Tatsuki Mori (Ryukoku Univ.) Global bifurcation structure of stationary solutions to a cell polarization model ..... 10  
Kousuke Kuto (Univ. of Electro-Comm.)  
Tsuji-kawa Tohru (Univ. of Miyazaki)  
Shoji Yotsutani (Ryukoku Univ.)
- 05-01-0012  
9 Takasi Yamasaki (Shimane Univ.) Smith-type criterion for the asymptotic stability based on the weighted damping ..... 10  
Jitsuro Sugie (Shimane Univ.)
- 05-01-0013  
10 Mitsuru Shibayama (Osaka Univ.) Variational proof of the existence of the super-eight solution in the four-body problem ..... 10
- 05-01-0060  
11 Tomoyuki Tanigawa (Kumamoto Univ.) Asymptotic behavior of positive solutions of third order Emden–Fowler differential equations ..... 10
- 05-01-0079  
12 Hiroyuki Usami (Gifu Univ.)\* Applications of ordinary differential equations to hyperbolic equations ..... 10
- 05-01-0039  
13 Hiroyuki Usami (Gifu Univ.) $\flat$  Global solution of an inverse blow-up problem ..... 10  
Yutaka Kamimura (Tokyo Univ. of Marine Sci. and Tech.)
- 05-01-0053  
14 Shingo Takeuchi (Shibaura Inst. of Tech.) Complete  $p$ -elliptic integrals and computation of  $\pi_3$  ..... 10
- 05-99-0001  
15 Katsuyuki Nishimoto (Descartes Press Co.)\* The solutions to the Laplace’s homogeneous ordinary differential equations by means of the N-fractional calculus ..... 4

**14:15–16:15**

05-01-0022

- 16 Ichiro Tsukamoto (Toyo Univ.) \* On an asymptotic expression of a positive solution of  $x'' = t^{\alpha\lambda-2}x^{1+\alpha}$  ( $\alpha = \lambda_0$ ,  $\lambda > 0$ ) . . . . . 10

05-01-0052

- 17 Tokinaga Namba (Univ. of Tokyo) On cell problems for Hamilton–Jacobi equations with non-coercive Hamiltonians and its application to homogenization problems . . . . . 10  
 Atsushi Nakayasu (Univ. of Tokyo)  
 Nao Hamamuki (Waseda Univ.)

05-01-0076

- 18 Haruya Mizutani (Osaka Univ.) Strichartz estimates for non-elliptic Schrödinger equations . . . . . 10  
 Nikolay Tzvetkov  
 (Univ. Cergy-Pontoise)

05-01-0070

- 19 Takuya Suzuki (Univ. of Tokyo) Analyticity of semigroups generated by higher order elliptic operators in spaces of bounded functions on  $C^1$  domains . . . . . 10

05-01-0051

- 20 Takanobu Hara (Tokyo Metro. Univ.) Potential estimates for elliptic equations with drift terms . . . . . 10

05-01-0035

- 21 Nobuyuki Kato (Nippon Inst. of Tech.) \* Uniform Hölder continuity of approximate solutions to parabolic systems . . . . . 10

05-01-0008

- 22 Tatsuki Kawakami (Osaka Pref. Univ.) \* When does the heat equation have a solution with a sequence of similar level sets? . . . . . 10  
 Shigeru Sakaguchi (Tohoku Univ.)

05-01-0046

- 23 Takayoshi Ogawa (Tohoku Univ.) \* Maximal  $L^1$ -regularity for a Cauchy problem to parabolic equations . . . . . 10  
 Senjo Shimizu (Shizuoka Univ.)

05-01-0040

- 24 Shuichi Jimbo (Hokkaido Univ.) \* Eigenvalues of 2nd order elliptic operators in a domain with a thin tubular hole . . . . . 10

**16:30–17:30 Talk invited by Functional Equations Section**

05-02-0002

- Naoki Sioji (Yokohama Nat. Univ.) A generalized Pohozaev identity and uniqueness of positive radial solutions for an elliptic equation

September 26th (Fri) Conference Room V

**9:00–12:00**

05-01-0066

- 25 Motohiro Sobajima (Univ. of Salento) Weighted Calderón–Zygmund and Rellich inequalities . . . . . 10  
 Giorgio Metafune (Univ. of Salento)  
 Chiara Spina (Univ. of Salento)

05-01-0075

- 26 Yoshifumi Mimura (Tohoku Univ.) A priori bounds of stationary solutions of two dimensional Keller–Segel system on polygonal domains . . . . . 10

05-01-0047

- 27 Norisuke Ioku (Ehime Univ.) Existence, non-existence, and unconditional uniqueness for a heat equation with exponential nonlinearity in  $\mathbb{R}^2$  . . . . . 10  
 B. Ruf (Univ. degli studi di Milano)  
 E. Terraneo  
 (Univ. degli studi di Milano)

05-01-0054

- 28 Shoichi Hasegawa (Tohoku Univ.) Liouville theorem for Hénon type equation on the hyperbolic space . . . . . 10

05-01-0048

- 29 Aya Ishizeki (Saitama Univ.) \* Variational formulae of decomposed Möbius energy and estimates . . . . 10  
 Takeyuki Nagasawa (Saitama Univ.)

05-01-0065

- 30 Kousuke Kuto Limiting structure of shrinking solutions to the stationary SKT model with large cross-diffusion . . . . . 10  
 (Univ. of Electro-Comm.)

05-01-0005

- 31 Yasuhito Miyamoto (Univ. of Tokyo) Intersection properties of radial solutions and global bifurcation diagrams for supercritical quasilinear elliptic equations . . . . . 10

- 05-01-0041  
32 Mieko Tanaka (Tokyo Univ. of Sci.) \* Generalized eigenvalue problem for  $(p, q)$ -Laplacian with indefinite weight  
Dumitru Motreanu (Univ. de Perpignan) ..... 10
- 05-01-0042  
33 Mieko Tanaka (Tokyo Univ. of Sci.) \* Bifurcation of positive solutions for the one dimensional  $(p, q)$ -Laplace  
Ryuji Kajikiya (Saga Univ.) equation ..... 10  
Satoshi Tanaka (Okayama Univ. of Sci.)
- 05-01-0069  
34 Daisuke Naimen (Osaka City Univ.) On the multiple solutions of a nonlinear elliptic problem with the  
Dirichlet energy ..... 10
- 05-01-0064  
35 Masato Hashizume (Osaka City Univ.) A minimization problem with a sign changing condition ..... 10
- 05-01-0014  
36 Yasuhiro Fujita (Univ. of Toyama) \* Log-Sobolev inequality for locally Lipschitz continuous functions ..... 10
- 05-01-0020  
37 Atsushi Kosaka (Osaka City Univ.) Asymptotic behavior of eigenvalues to the Laplace–Beltrami operator  
Yoshitsugu Kabeya (Osaka Pref. Univ.) on a spherical cap in  $\mathbb{S}^N$  ..... 10  
Tatsuki Kawakami (Osaka Pref. Univ.)  
Hirokazu Ninomiya (Meiji Univ.)
- 05-01-0038  
38 Soohyun Bae (Hanbat Nat. Univ.) Critical phenomena in the separation property for semilinear elliptic  
Yūki Naito (Ehime Univ.) equations ..... 10
- 05-01-0011  
39 Futoshi Takahashi (Osaka City Univ.) On the location of two blow up points on an annulus for the mean field  
Massimo Grossi equation ..... 10  
(Univ. di Roma “La Sapienza”)

**13:15–14:15 Talk invited by Functional Equations Section**

- 05-02-0003  
Hideo Nakazawa <sup>b</sup> Scattering problems for wave equations with dissipation and related  
(Nippon Medical School) topics

September 27th (Sat) Conference Room V

**9:00–12:00**

- 05-01-0006  
40 Hiroyoshi Mitake (Hiroshima Univ.) \* Analysis on the large-time behavior by the nonlinear adjoint method:  
Hung V. Tran (Univ. of Chicago) obstacle problems ..... 10
- 05-01-0007  
41 Hiroyoshi Mitake (Hiroshima Univ.) \* Weakly coupled systems of the infinity Laplace equations: existence,  
Hung V. Tran (Univ. of Chicago) uniqueness, comparison with generalized cones ..... 10
- 05-01-0036  
42 Masashi Aiki (Tokyo Univ. of Sci.) Motion of a vortex filament in an external flow ..... 10  
Tatsuo Iguchi (Keio Univ.)
- 05-01-0003  
43 Okihiro Sawada (Gifu Univ.) \* On the shear flows of the Euler equations ..... 10
- 05-01-0010  
44 Tsuyoshi Yoneda (Tokyo Tech) Local ill-posedness of the Euler equations in  $B_{\infty,1}^1$  ..... 10  
Gerard Misiolek (Univ. of Notre Dame)
- 05-01-0028  
45 Erika Ushikoshi (Tamagawa Univ.) \* Hadamard variational formula for the eigenvalue of the Stokes equations  
Shuichi Jimbo (Hokkaido Univ.) with the Dirichlet boundary conditions ..... 10
- 05-01-0025  
46 Ken Abe (Nagoya Univ.) \* On estimates for the Stokes flow in a space of bounded functions ..... 10
- 05-01-0045  
47 Senjo Shimizu (Shizuoka Univ.) On local well-posedness of incompressible two-phase flows with phase  
Shintaro Yagi (Shizuoka Univ.) transitions ..... 10
- 05-01-0056  
48 Hirokazu Saito (Waseda Univ.) Global well-posedness of a free boundary problem for the Navier–Stokes  
Yoshihiro Shibata (Waseda Univ.) equations in the  $L_p$ - $L_q$  framework ..... 10

05-01-0067		
49	<u>Takayuki Kubo</u> (Univ. of Tsukuba) Yoshihiro Shibata (Waseda Univ.)	Maximal $L_p$ - $L_q$ regularity of the compressible-incompressible two phase problem, without surface tension and phase transition case . . . . . 10
05-01-0068		
50	<u>Takayuki Kubo</u> (Univ. of Tsukuba) Yoshihiro Shibata (Waseda Univ.)	Local and global well-posedness of the compressible-incompressible two phase problem, without surface tension and phase transition case . . . . 10
05-01-0081		
51	<u>Miho Murata</u> (Waseda Univ.) Yoshihiro Shibata (Waseda Univ.)	On the global well-posedness for a compressible viscous fluid flow . . . . 10
05-01-0077		
52	Yasunori Maekawa (Tohoku Univ.)	Large time asymptotics for two-dimensional exterior flows with small circulation at infinity . . . . . 10
05-01-0087		
53	<u>Toshiaki Hishida</u> (Nagoya Univ.) <sup>b</sup> Maria Schonbek (Univ. California, Santa Cruz)	Stability of time-dependent Navier–Stokes flow and algebraic energy decay . . . . . 10
<b>14:15–16:15</b>		
05-01-0029		
54	Itsuko Hashimoto (Toyama Nat. Coll. of Tech.)	Asymptotic stability of rarefaction wave of radially symmetric solutions for Burgers equation in several space dimensions . . . . . 10
05-01-0082		
55	<u>Shouta Enomoto</u> (Kyushu Univ.) Yoshiyuki Kagei (Kyushu Univ.)	On linearized stability of stationary solutions to the compressible Navier–Stokes equation in a periodic layer . . . . . 10
05-01-0083		
56	<u>Naofumi Mori</u> (Kyushu Univ.) Shuichi Kawashima (Kyushu Univ.)	Decay property for the Timoshenko system with thermal effects: Cattaneo versus Fourier’s law . . . . . 10
05-01-0084		
57	Naofumi Mori (Kyushu Univ.)	Global existence and energy decay of solutions of the nonlinear Timoshenko system with memory . . . . . 10
05-01-0032		
58	<u>Kentarou Fujie</u> (Tokyo Univ. of Sci.) Michael Winkler (Univ. Paderborn) Tomomi Yokota (Tokyo Univ. of Sci.)	Blow-up prevention by logistic sources in a parabolic-elliptic Keller–Segel system with singular sensitivity . . . . . 10
05-01-0033		
59	Kentarou Fujie (Tokyo Univ. of Sci.)	Boundedness in a fully parabolic chemotaxis system with singular sensitivity . . . . . 10
05-01-0058		
60	Sachiko Ishida (Tokyo Univ. of Sci.)	Global existence for a 2D quasilinear chemotaxis-Navier–Stokes system with rotation . . . . . 10
05-01-0004		
61	Masanari Miura (Kyushu Univ.) Yoshie Sugiyama (Kyushu Univ.)	On uniqueness theorem on weak solutions to the parabolic-parabolic Keller–Segel system of degenerate and singular types . . . . . 10
05-01-0015		
62	Noriko Mizoguchi (Tokyo Gakugei Univ.)	A new proof to finite-time blowup in the parabolic-parabolic Keller–Segel system . . . . . 10
05-01-0016		
63	<u>Noriko Mizoguchi</u> (Tokyo Gakugei Univ.) Philippe Laurençot (Univ. de Toulouse/CNRS)	Finite-time blowup for the parabolic-parabolic Keller–Segel system with critical diffusion . . . . . 10
<b>16:30–17:30 Talk invited by Functional Equations Section</b>		
05-02-0001		
	Kotaro Tsugawa (Nagoya Univ.)	Local well-posedness for fifth-order nonlinear dispersive equations

September 28th (Sun) Conference Room V

**9:00–12:00**

05-01-0017		
64	Takashi Kagaya (Hokkaido Univ.)	A local existence on a free boundary problem for quasilinear parabolic equation . . . . . 10

- 05-01-0034  
65 Kurumi Hiruko (Tohoku Univ.) A dynamical aspect of hybrid system describing intermittent androgen suppression therapy of prostate cancer ..... 10
- 05-01-0049  
66 Motohiro Sobajima (Univ. of Salento) Existence of solutions to heat equations with singular lower order terms  
Noboru Okazawa (Tokyo Univ. of Sci.) ..... 10  
Tomomi Yokota (Tokyo Univ. of Sci.)
- 05-01-0086  
67 Junichi Harada (Akita Univ.)\* Blow-up set for a parabolic system equation ..... 8
- 05-01-0023  
68 Tomoro Asai (Univ. of Tokyo)\* On self-similar solutions to the surface diffusion flow equations with  
Yoshikazu Giga (Univ. of Tokyo) contact angle boundary conditions ..... 10
- 05-01-0021  
69 Masashi Mizuno (Nihon Univ.)\* A singular limit problem of the Allen–Cahn equation with Neumann  
Yoshihiro Tonegawa (Hokkaido Univ.) boundary conditions ..... 10
- 05-01-0018  
70 Keisuke Matsuya (Univ. of Tokyo)<sup>b</sup> Existence of blow-up solutions for a discrete semilinear heat equation  
Tetsuji Tokihiro (Univ. of Tokyo) ..... 10
- 05-01-0043  
71 Hiroshi Matsuzawa \* Spreading speed and sharp asymptotic profiles of solutions in free  
(Numazu Nat. Coll. of Tech.) boundary problems for nonlinear diffusion equations ..... 10  
Yihong Du (Univ. of New England)  
Maolin Zhou (Univ. of Tokyo)
- 05-01-0055  
72 Jin Takahashi (Tokyo Tech) Solutions with time-dependent singularities for a semilinear heat equa-  
Eiji Yanagida (Tokyo Tech) tion with absorption ..... 10
- 05-01-0085  
73 Masakazu Yamamoto (Hiroasaki Univ.) Asymptotic expansion of solutions to the drift-diffusion equation with  
Yuusuke Sugiyama critical dissipation ..... 10  
(Tokyo Univ. of Sci.)  
Keiichi Kato (Tokyo Univ. of Sci.)
- 05-01-0057  
74 Kazushige Nakagawa \* Global behavior of solutions to degenerate drift diffusion system in  
(Fukushima Univ.) between two critical exponents ..... 10  
Takayoshi Ogawa (Tohoku Univ.)  
Atsushi Kimijima (Tohoku Univ.)
- 05-01-0088  
75 Masaki Kurokiba <sup>b</sup> Two dimensional drift-diffusion system in a critical weighted space ... 10  
(Muroran Inst. of Tech.)
- 05-01-0071  
76 Masaharu Taniguchi (Okayama Univ.) Convex compact sets in  $\mathbb{R}^{N-1}$  give traveling fronts of cooperation-  
diffusion systems in  $\mathbb{R}^N$  ..... 10
- 05-01-0026  
77 Takashi Suzuki (Osaka Univ.)<sup>b</sup> Compactness of 2D normalized Ricci flow orbit —an analytic proof of  
Hamilton’s theorem— ..... 10
- 14:15–16:15**
- 05-01-0030  
78 Mamoru Okamoto (Shinshu Univ.) Remarks on ill-posedness of the Cauchy problem for the Chern–Simons–  
Shuji Machihara (Saitama Univ.) Dirac system in one dimension ..... 10
- 05-01-0074  
79 Nobu Kishimoto (Kyoto Univ.) Normal form reduction for the unconditional uniqueness of periodic  
nonlinear dispersive equations ..... 10
- 05-01-0080  
80 Hironobu Sasaki (Chiba Univ.)\* Remark on the scattering operator for the cubic nonlinear Dirac equa-  
tion in three space dimensions ..... 10
- 05-01-0061  
81 Takahisa Inui (Kyoto Univ.) Remark on the lifespan of solutions and non-existence of local solution  
Masahiro Ikeda (Kyoto Univ.) for a nonlinear Schrödinger equation ..... 10
- 05-01-0078  
82 Kota Uriya (Tohoku Univ.)\* Final state problem for a system of nonlinear Schrödinger equations  
with three wave interaction ..... 10

05-01-0062

83 Makoto Nakamura (Yamagata Univ.)\* On the Cauchy problem for nonlinear Schrödinger equations in de Sitter spacetime ..... 10

05-01-0037

84 Yuta Wakasugi (Osaka Univ.)\* Critical exponent for the Cauchy problem to the weakly coupled damped  
Kenji Nishihara (Waseda Univ.) wave system ..... 10

05-01-0072

85 Hironari Miyoshi (Waseda Univ.) Convergence of hydrodynamical limits for generalized Carleman models  
Masayoshi Tsutsumi (Waseda Univ.) ..... 10

05-01-0063

86 Kyouhei Wakasa (Hokkaido Univ.)\* The lifespan of solutions to nonlinear wave equations with weighted functions in 1D ..... 10

05-01-0073

87 Koichi Taniguchi (Chuo Univ.)\* Scattering problem for semilinear wave equation with a potential in an  
Tsukasa Iwabuchi (Chuo Univ.) exterior domain ..... 10  
Tokio Matsuyama (Chuo Univ.)

### 16:30–17:30 Talk invited by Functional Equations Section

05-02-0004

Shinya Okabe (Tohoku Univ.)<sup>b</sup> A fourth order parabolic obstacle problem