

# Notices from the ISMS

( Novae Scientiae Mathematicae )

January 2008

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For the Welfare of the Humankind  
Promoting Mathematical Sciences

**Mathematical Contributions**  
**of**  
**Professor Dumitru V. Ionescu**

ADRIAN PETRUȘEL AND IOAN A. RUS

Professor Dumitru V. Ionescu is one of the founders of the Romanian School on Approximation Theory and Numerical Analysis, with many deep and nice results. Some mathematical objects have, as symbol, his name:

- Ionescu's variant of Peano's kernel theory: "the  $\varphi$ -function method in numerical analysis" or "D.V. Ionescu method of function  $\varphi$ " or "D.V. Ionescu method".
- Gauss-Turan-Ionescu quadratures;
- D'Alembert-Ionescu equation;
- Cauchy-Ionescu problem;
- Darboux-Ionescu problem;
- Picard-Ionescu problem;
- Goursat-Ionescu problem.

His research activity was mainly dedicated to Ordinary Differential Equations, Partial Differential Equations, Functional Equations, Integral Equations, Approximation Theory and Numerical Analysis.

As a Professor, he taught the following courses, at undergraduate, graduate or post-graduate level: Ordinary Differential Equations, Partial Differential Equations, Calculus of Variations, Quadrature Formulas, Divided Differences, Numerical Analysis.

On 7th June 2007, eighty years passed since the Ph.D. Dissertation defense of Dumitru V. Ionescu. This work is dedicated to this anniversary.

**1 A short review of D.V. Ionescu's career** Dumitru V. Ionescu was born on 14th May, 1901 in Bucharest, Romania.

He attended primary and secondary school in Bucharest ("Sfântul Sava" High School) and then went on to take his undergraduate degree in Mathematics, with brilliant results, at the University of Bucharest (1919-1922). Gh. Țițeica, A. Davidoglu, D. Emmanuel, T. Lalescu, T. Angheluță, N. Coculescu, S. Sanielevici and D. Pompeiu were some of his professors.

Between 1923 and 1927 he became a student (with a scholarship obtained on Gheorghe Țițeica's recommendation) of the very famous postgraduate school in Mathematics at École Normale Supérieure in Paris. He had there some very famous professors (E. Picard, H. Lebesgue, P. Montel, E. Goursat) and colleagues (H. Cartan, J. Dieudonné, P. Dubreuil). On 7th June 1927 he defended his Ph.D. Dissertation "Sur une classe d'équations fonctionnelles".

His professional career started in 1928 as associate professor at the University of Cluj. Later, between 1931 and 1949, respectively between 1955 and 1971, D.V. Ionescu was full professor at the same university. Meanwhile, between 1949 and 1955, he was named full professor at the Technical University of Cluj.

From the administrative appointments point of view, Professor D.V. Ionescu was, between 1941 and 1945, Dean of the Faculty of Sciences in the University of Cluj, Head of the Chair of Mathematics from the Technical University of Cluj-Napoca (1949-1955) and Head of the Chair of Differential Equations from the University of Cluj (1955-1971).

Between 1955 and 1985, Professor D.V. Ionescu was Chairman of the Seminar on Differential Equations from the University of Cluj. In this Seminar, several mathematicians began their research activity. We mention a few of them: A. Coțiu, M. Frenkel, P. Pavel, P. Szilagyi, I.A. Rus, Gh. Coman, Gh. Micula, F. Muntean-Pascal, G. Pavel, D. Trif, E. Schecter, etc.

In 1981, Professor Dumitru V. Ionescu was celebrated on the occasion of his eighty anniversary. Here is a fragment from a letter of J. Dieudonné, sent with this occasion; "It looks as if only yesterday there came a boy who seemed too serious for the kids that we still were. I wonder even if we hadn't thought of rejecting this intruder who gave us the bad example of going back to work immediately after lunch; but our hold-back soon disappeared, for our new colleague proved to be the most enjoyable company one could ever dream of and this was the beginning of a friendship which lasts forever."

In the letter of the head of class of 1923, P. Dubreuil, it is said among others: "While sending my best wishes on your birthday, I cannot stop thinking of Clémenceau's words: ≲When you are young, you're young forever≫. You are the perfect illustration of this saying: your spiritual youth throughout the continuation of your activity as a high-quality savant. The youth of your heart manifests itself in many ways, particularly in the connections you have established for over half a century with the School and with our class. I must confess that the four or five lives in which Vessiot announced the imminent arrival of a Romanian comrade did not cause enthusiasm among us. However, since your arrival, our contact has been facilitated by your excellent knowledge of French and furthermore, by your calm and your simplicity that excluded any condescendence toward your younger and less skilled colleagues. Your sense of humor allowed you to adapt quickly to the spirit of the "École Normale Supérieure" and our relations faced a magnificent chain reaction: liking, comradeship, friendship."

At that time a warm telegram was received from Madison, from Professor Schoenberg, the father of spline functions.

The Bulgarian Academy of Science also takes part in that event. Here is a fragment from the letter signed by Acad. B. Sendov and Acad. L. Iliev: "Your scientific activity crossed the Romanian borders a long time ago and the results in the various fields of mathematics ensured you an honorable place in the universal mathematics. Your works in the field of Differential Equations and Numerical Analysis, as well as, your method of the  $\varphi$  function inspired a large number of mathematicians. We will never forget the fact that you had a friendly collaboration with some of our scholars: eminent Bulgarian mathematicians."

He passed away on 20th January, 1985 in Cluj-Napoca.



**3 Ionescu's variant of the Peano's kernel theory** D.V. Ionescu himself presented this method ([46], 7-8) as follows:

"This method is in fact the application of the classical method of Green in the Numerical Analysis, as it is mentioned in Radon [64] and Ghizzetti [16]. My merit is that I have considered this method as the starting point for a research problem in Numerical Analysis and I have understood it in every of his intimate aspects. Recently, I have succeeded to open a new research approach by using the method of  $\varphi$  function for problems of Numerical Analysis generated by several variables functions.

The idea of this method is to attach to each formula of Numerical Analysis a boundary value problem for a differential or a partial differential equation with suitable boundary conditions. This approach gives the possibility to obtain, in a remarkable way, the desired formula, as well as, the rest of it in the following integral form:

$$(1) R[f] := \int_a^b \varphi(x) \cdot f^{(n)}(x) dx,$$

where  $f \in C^n[a, b]$  is the function to which the formula is applied.

There are several mathematicians who obtained the rest of the formulas from Numerical Analysis in an integral form, such as: G. Peano [62], L. Tchakaloff [71], G. Kowalewski [48], R. von Misses [56]. I would like to notice that my approach is different, because the function  $\varphi$  in the formula (1) is obtained by the method of  $\varphi$  function, from a boundary value problem that gives us the rest of the formula and its coefficients.

By varying the boundary conditions, we can obtain new functions  $\varphi$  and thus new formulas of the Numerical Analysis. This is the main aspect that lead us to consider the method of  $\varphi$  function very attractive and prolific."

For other contributions to this method see also: [28], [31]-[37], [39], [40], [42]-[45].

Several results of D.V. Ionescu have been cited and extended by: O. Aramă [2], Gh. Coman [7], A. Coțiu [9], M. Frenkel [12], C. Iacob [17], C. Kalik [47], G. Micula [50]-[53], G. Micula and M. Micula [55], F. Pascal [58], [59], P. Pavel [61], [62], D.D. Stancu [74], D. Trif [77]. See also: G.S. Andonie [1], O. Agratini and P. Blaga [3], Gh. Coman, I. Chiorean and T. Căținaș [8], I. Gavra and M. Ivan [13], I.A. Rus [68], R. Trâmbițaș [78], L. Lușșa and M. Ivan [49].

**4 The Ph.D. Thesis of D.V. Ionescu** In his Ph.D. Disseratation (see [19]) D.V. Ionescu studied (for the first time in mathematical literature) problems of Cauchy, Darboux, Picard and Goursat type for second order hyperbolic partial differential equations with modified argument:

$$\frac{\partial^2 u}{\partial x \partial y} = F(x, y, u(g_0(x, y), h_0(x, y)), \frac{\partial u}{\partial x}(g_1(x, y), h_1(x, y)), \frac{\partial u}{\partial y}(g_2(x, y), h_2(x, y))),$$

where  $(x, y) \in D \subset \mathbb{R}^2$ .

For example, in the case of a Cauchy problem with:  $\bar{D} := [0, a] \times [0, b]$ ,  $g_i \in C(D, [0, a])$ ,  $h_i \in C(D, [0, b])$  for  $i \in \{0, 1, 2\}$ , the Cauchy conditions are the following:

$$\begin{cases} u(x, \varphi(x)) = u_0(x), & 0 \leq x \leq a \\ \frac{\partial u}{\partial x}(x, \varphi(x)) = u_1(x), & 0 \leq x \leq a \end{cases},$$

where  $u_0, u_1 \in C[0, a]$  and  $\varphi \in C^1[0, a]$  are given, with  $\varphi(0) = 0, \varphi(a) = b, \varphi(x) > 0$ , for each  $x \in [0, a]$ .

In the case of a Darboux problem the boundary conditions are:

$$\begin{cases} u(x, 0) = u_1(x), & 0 \leq x \leq a \\ u(0, y) = u_2(y), & 0 \leq y \leq a \end{cases}$$

For the Picard problem we have:

$$\begin{cases} u(x, 0) = u_1(x), & 0 \leq x \leq a \\ u(0, \varphi(x)) = u_2(x), & 0 \leq x \leq a \end{cases}$$

Let  $\varphi \in C([0, a], [0, b])$  and  $\psi \in C([0, b], [0, a])$  be two increasing functions such that  $\varphi(0) = \psi(0) = 0$  and some other conditions are satisfied.

The Goursat conditions are the following:

$$\begin{cases} u(x, \varphi(x)) = u_1(x), & 0 \leq x \leq a \\ u(\psi(y), y) = u_2(y), & 0 \leq y \leq b \end{cases}$$

The main tool of Ionescu's thesis is the method of successive approximations introduced by E. Picard.

Starting to the paper I.A. Rus [72], the above problems are named, in the mathematics literature, Cauchy-Ionescu problem, Darboux-Ionescu problem, Picard-Ionescu problem and Goursat-Ionescu problem.

The results in D.V. Ionescu's Dissertation have been extended by I.A. Rus [69], [72], D. Rădulescu [68], V. Berinde [5], G. Dezső [10]-[11], P. Pavel [62], G. Teodoru [72]-[76].

For other D.V. Ionescu results on partial differential equations see [20], [21], [23], [24], [1].

**5 D.V. Ionescu's results in the theory of ordinary differential equations** D.V. Ionescu also has several deep and nice results in the theory of ordinary differential equations ([20], [22], [30], [36], [38], [43], ...). In what follows we only present the following two problems (see [22]):

**Problem 1.** Let  $t_k \in [a, b]$  with  $t_1 < t_2 < \dots < t_n$  ( $n \in \mathbb{N}, n \geq 3$ ) and  $f = (f_1, f_2, \dots, f_n) \in C([a, b] \times \mathbb{R}^n, \mathbb{R}^n)$ . We suppose that  $t_1 = a$  and  $t_n = b$ . The problem is to study the existence of  $x = (x_1, x_2, \dots, x_n) \in C^1([a, b], \mathbb{R}^n)$  such that

$$x'(t) = f(t, x(t)), \quad t \in [a, b]$$

and

$$\begin{cases} x_1(t_1) = 0, \\ x_2(t_2) = x_1(t_2), \\ \dots \\ x_{n-1}(t_{n-1}) = x_{n-2}(t_{n-1}), \\ x_n(t_n) = 0, \end{cases}$$

**Problem 2.** Let  $a < t_2 < b$  and  $f_1, f_2 \in C([a, b] \times \mathbb{R}^n)$ . The problem is to study the existence of  $x_1, x_2 \in C^2[a, b]$  such that:

$$\begin{cases} x_1''(t) = f_1(t, x_1(t), x_2(t), x_1'(t), x_2'(t)), & t \in [a, b] \\ x_2''(t) = f_2(t, x_1(t), x_2(t), x_1'(t), x_2'(t)), & t \in [a, b] \\ x_1(a) = x_2(b) = 0 \\ x_1(t_2) = x_2(t_2), x_1'(t_2) = x_2'(t_2) \end{cases}$$

In [22], D.V. Ionescu proved that if the interval  $[a, b]$  is sufficiently small and the functions  $f_i$  are Lipschitz with respect to  $x$  in Problem 1 and with respect to  $x$  and  $x'$  in Problem 2, then these problems have a unique solution.

For D.V. Ionescu's results in the numerical analysis of differential equations see [30], [36], [38], [46], [1], [54], [68], etc.

**6 Other results of D.V. Ionescu** 6.1 For D.V. Ionescu' results in the theory of Integral Equations see [18], [25], [26], [43], [1].

6.2 The following equation (see [14]) is called D'Alembert-Ionescu functional equation:

$$f(u + \lambda, v + \mu) + f(u + \lambda, v - \mu) + f(u - \lambda, v + \mu) + f(u - \lambda, v - \mu) = 4 \cdot f(u, v) \cdot f(\lambda, \mu).$$

6.3 The results of D.V. Ionescu on the following functional equations in  $f \in C(\mathbb{R})$ :

$$\det \begin{pmatrix} f(x) & f(x+h) & \dots & f(x+nh) \\ f(x+h) & f(x+2h) & \dots & f(x+(n+1)h) \\ \dots & \dots & \dots & \dots \\ f(x+nh) & f(x+(n+1)h) & \dots & f(x+2nh) \end{pmatrix} = 0.$$

are given in [29]

6.4 Since his primary school days D.V. Ionescu started a steady collaboration with "Gazeta Matematica" (see [6]). This activity is presented in [4].

6.5 For other mathematical contributions of D.V. Ionescu see [1], [59], [68].

## 7 The Cluj-Napoca School in Approximation Theory and Numerical Analysis

Dumitru V. Ionescu (1901-1985) and Tiberiu Popoviciu (1906-1975) are the founders of the Cluj-Napoca School in Approximation Theory and Numerical Analysis, and Elena Popoviciu (b. 1924) and Dimitrie D. Stancu (b. 1927) are the consolidators and today leaders.

In general, a scientific school disappears with the retirement of the leaders who created it. For this school isn't the case. The future of this school is defined by the following today leaders and Ph.D. Supervisors: Gheorghe Coman, Petru Blaga, Ion Păvăloiu, Octavian Agratini, Ștefan Mărușter, Ioan Gavrea, Ioan Rașa, Mircea Ivan, Sorin Gal and Damian Trif. The above group of researchers was too early forsaken by Gheorghe Micula (1943-2003) and Alexandru Lupaș (1942-2007) (see [3], [8], [13], [59], [70], [77], [78], etc.

As an editorial activity, we have to mention that two journals are edited by Cluj-Napoca School in Approximation Theory and Numerical Analysis:

### • Revue d'Analyse Numérique et de Théorie de l'Approximation

Editorial Board: Dimitrie D. Stancu (Editor-in-Chief) - Cluj-Napoca, Ion Păvăloiu (Deputy Editor-in-Chief) - Cluj-Napoca, Francesco Altomare - Bari, Gheorghe Coman - Cluj-Napoca, Heinz H. Gonska - Duisburg, Laura Gori - Rome, Constantin Ilioi - Iași, Marius Iosifescu - București, Solomon Marcus - București, Ștefan Mărușter - Timișoara, Gradimir V. Milovanovic - Nis, Alexandru Nemeth - Cluj-Napoca, Mario Rosario Occorsio - Naple, Titus Petrila - Cluj-Napoca, Elena Popoviciu - Cluj-Napoca, Ivan Singer - București.

### • Annals of the "Tiberiu Popoviciu" Seminar of Functional Equations, Approximatiuon and Convexity

Editorial Board: Elena Popoviciu (Editor-in-Chief) - Cluj-Napoca, Mircea Ivan (Vice Editor-in-Chief) - Cluj-Napoca, Ștefan Țigan (Vice Editor-in-Chief) - Cluj-Napoca, Marius Iosifescu - București, Viorel Barbu - Iași, Borislav Bojanov - Sofia, Blagovest Sendov - Sofia, Petru Soltan -Kishinev, Sergiu Cataranciu - Kishinev, Petru Blaga - Cluj-Napoca, Adrian Petrușel - Cluj-Napoca, Borislav Crstici - Timișoara, Radu Precup - Cluj-Napoca, Ștefan Nițchi - Cluj-Napoca, Gheorghe Halic - Arad, Ioan Rașa - Cluj-Napoca, Liana Lupaș - Cluj-Napoca, Ștefan Hobai - Târgu-Mureș, Nicolae Todor - Cluj-Napoca, Daniela Marian - Cluj-Napoca.

## REFERENCES

- [1] Andonie G.S., *Istoria matematicii în România*. [The History of Mathematics in Romania]. Vol. 2, Ed. Științifică, București, 1966 110–124.
- [2] Aramă O., Sur le reste de certaines formules de Runge-Kutta pour l'intégration numérique des équations différentielles. *Acad. R.P. Române Fil. Cluj Stud. Cerc. Mat.* 11 (1960) 9–29.
- [3] Agratini O., Blaga P. (Eds.), *Proceed. Int. Conf. on Numerical Analysis and Approximation Theory*. Casa Cărții de Știință Cluj-Napoca 2006.
- [4] Bege A., Iancu C., D.V. Ionescu and "Gazeta Matematică". in *Mathematical Contributions of D.V. Ionescu*. Edited by Ioan A. Rus. Babeș-Bolyai University. Department of Applied Mathematics, Cluj-Napoca 2001 95–100.
- [5] Berinde V., On the problem of Darboux-Ionescu using a generalized Lipschitz condition. *Seminar on Fixed Point Theory, Cluj-Napoca*, 1992 19–28.
- [6] Berinde V., Pop M.S., Șerdean V., Balazs I., Țicală C., *Journals of Mathematics Education and Elementary Mathematics in Romania*. CUB Press, Baia-Mare 2004.
- [7] Coman Gh., On D.V. Ionescu practical numerical integration formulas. in *Mathematical Contributions of D.V. Ionescu*. Edited by Ioan A. Rus. Babeș-Bolyai University, Department of Applied Mathematics, Cluj-Napoca, 2001 69–76.
- [8] Coman Gh., Chiorean I., Căținaș T., *Numerical Analysis*. Presa Univ. Clujeană, Cluj-Napoca, 2007.
- [9] Coțiu A., New procedures of numerical integration of first-order differential equations (Romanian). *Studia Univ. Babeș-Bolyai Math.* 26 (1981) 32–36.
- [10] Dezső G., On the problem of Picard-Ionescu. *Seminar on Fixed Point Theory, Cluj-Napoca*, 1984 29–35.
- [11] Dezső G., The Darboux-Ionescu problem for third-order system of hyperbolic equations. *Libertas Math.* 21 (2001) 27–34.
- [12] Frenkel M., Sur un théorème de D. Jackson. *Studia Univ. Babeș-Bolyai Math.* 26 (1981) 13–18.
- [13] Gavrea I., Ivan M. (Eds.), *Mathematical Analysis and Approximation Theory*. Mediamira Cluj-Napoca, 2005.
- [14] Gheorghiu O.E., A matrix equation of the type of the functional equation of d'Alembert (Romanian)., *Bull. Șt. Inst. Politehn. Timișoara* 7 (1962) 9–11.
- [15] Ghircoiașiu, Stamate I., A problem relative to the second formula of the mean (Romanian). *Bull. Șt. Inst. Politehn. Cluj* 9 (1966) 37–40.
- [16] Ghizetti A. Sulla formule di quadratura. *Rend. del Sem. Mat. Fiz. di Milano* 1954/1955 237–268.
- [17] Iacob C., *Curs de matematici superioare*. [Course of Higher Mathematics]. Ed. Tehnica București, 1957.
- [18] Ionescu D.V., Sur la fonction caractéristique et le noyan résolvant d'un noyan donné. *Bull. des Sc. Math. Paris* 50 (1926) 218, 247.
- [19] Ionescu D.V., Sur une classe d'équation fonctionnelles. *Ann. de la Fac. Sc. Toulouse* 19 (1927) 39–92 (Ph.D. Dissertation).
- [20] Ionescu D.V., Un probleme relatif a la théorie des equations aux dérivées partielles du second order. *Mathematica* 2 (1929) 23–43.
- [21] Ionescu D.V., Sur un théoreme de Lord Kelvin. *Bull. de la Classe des Sc. de l'Acad. Royale de Belgique* 14 (1929) 475, 489, 620.
- [22] Ionescu D.V., Quelques théoremes d'existence des intégrales des systemes d'équations differentielles. *C.R. de l'Acad. Sc. Paris* 186 (1929) 1262–1263.

- [23] Ionescu D.V., Sur un système d'équation aux dérivées partielles du second order. *Mathematica* 3 (1930) 79-101.
- [24] Ionescu D.V., Sue un probleme relatif aux équation aux dérivées partielles du second order. *Bull. de la Soc. Math. de France* 15 (1931) 163.
- [25] Ionescu D.V., Deux théorèmes sur une équation intégral-différentielle. *Bull. de l'Acad. Royale de Belgique* (1933) 1377.
- [26] Ionescu D.V., Remarques sur une équation intégrale singulière de M.E. Picard. *C.R. Acad. Sc. Roumanie* 1 (1937) 271-272.
- [27] Ionescu D.V., *Numerical Quadratures. Știință și Tehnică* București 1957.
- [28] Ionescu D.V., Formules de cubature. application à l'intégration numérique des équations aux dérivées partielles du second order de type hyperbolique. *Mathematica* 24 (1959) 239-280.
- [29] Ionescu D.V., Sur une équation fonctionnelle. *Mathematica (Cluj)* 1 (1959) 11-26.
- [30] Ionescu D.V., L'application de la méthode des approximations successives a l'intégration numérique des équations différentielles. *Bull. Math. Soc. Sci. Math. Phys. R. P. Roumaine (N.S.)* 3 (51) (1959) 423-431.
- [31] Ionescu D.V., Representation as a double integral of the divided difference of order  $(m, n)$  of a function of two variables. I. (Russian) *Dokl. Akad. Nauk SSSR* 141 (1961) 1026-1029.
- [32] Ionescu D.V., Representation as a double integral of the divided difference of order  $(m, n)$  of a function of two variables. II. (Russian) *Dokl. Akad. Nauk SSSR* 141 (1961) 1294-1297.
- [33] Ionescu D.V., Généralisation d'une formule de dérivation numérique de V.N. Fadeeva. *Ann. Polon. Math.* 14 (1963/1964) 169-181.
- [34] Ionescu D.V., On a cubature formula. (Romanian) *Studia Univ. Babeș-Bolyai Ser. Math.-Phys.* 8 (1963) 79-91.
- [35] Ionescu D.V., Some practical quadrature formulas. (Romanian) *Com. Acad. R. P. Române* 13 (1963) 689-695.
- [36] Ionescu D.V., Quelques formules pratiques d'intégration numérique des équations différentielles. *Rev. Roumaine Math. Pures Appl.* 9 (1964) 237-243.
- [37] Ionescu D.V., Nouvelles formules pratiques de quadrature. *C.R. Acad. Sci. Paris* 259 (1964) 504-507.
- [38] Ionescu D.V., L'intégration numérique des équations différentielles du second ordre. *Mathematica (Cluj)* 6 (29) (1964) 217-232.
- [39] Ionescu D.V., Restes des formules de quadrature de Gauss et de Turán. *Acta Math. Acad. Sci. Hungar.* 18 (1967) 283-295.
- [40] Ionescu D.V., Sur une classe de formules de cubature. *C.R. Acad. Sci. Paris Sr. A-B* 266 (1968) A1155-A1158.
- [41] Ionescu D.V., L'extension d'un équation fonctionnelle de D. Pompeiu à l'aide d'une formule de dérivation numérique. (German) *Ann. Polon. Math.* 22 (1969/1970) 239-242.
- [42] Ionescu D.V., Introduction à la théorie des "fonctions spline". *Acta Math. Acad. Sci. Hungar.* 21 (1970) 21-26.
- [43] Ionescu D.V., *Ecuatii diferențiale și integrale.* (Romanian) [Differential and Integral Equations] Second edition. Editura Didactică și Pedagogică, București, 1972.
- [44] Ionescu D.V., Sur une classe de formules de cubature pour les intégrales triples. *C.R. Acad. Sci. Paris Sér. A* 278 (1974) 439-442.
- [45] Ionescu D. V., *Diferențe divizate.* (Romanian) [Divided differences] Editura Academiei Republicii Socialiste România, București, 1978.
- [46] Ionescu D.V., La méthode de la fonction  $\phi$  en analyse numérique. in *Mathematical Contributions of D. V. Ionescu (I.A. Rus -Ed.)*, 7-58, Babeș-Bolyai Univ., Dept. Appl. Math., Cluj-Napoca, 2001.

- [47] Kalik C., Professor D. V. Ionescu on his 80th birthday. (Romanian) Mem. Sect. Ştiinţ. Acad. Repub. Soc. Romnia Ser. IV 4 (1981) 449–453 (1983).
- [48] Kowalewski G., Interpolation und genahrte Quadratur. B.G. Taubner Leipzig, 1932.
- [49] Lupşa L., Ivan M., Analysis, Functional Equations, Approximation and Convexity. Risoprint Cluj-Napoca 2004.
- [50] Micula G., On "D.V. Ionescu method" in numerical analysis as a constructing method of spline functions. Rev. Roumaine Math. Pures Appl. 26 (1981) 1131–1141.
- [51] Micula G., The "D.V. Ionescu method" of constructing approximation formulas. Studia Univ. Babeş-Bolyai Math. 26 (1981) 6-13.
- [52] Micula G., Professor Emeritus D.V. Ionescu 1901–1985. (Romanian) Gaz. Mat. (Bucharest) 90 (1985) 225–227.
- [53] Micula G., D.V. Ionescu-a Romanian forerunner of modern numerical analysis. Dedicated to the memory of Dumitru V. Ionescu. Libertas Math. 21 (2001) 1–4.
- [54] Micula G., The D. V. Ionescu's contributions to the numerical solution of differential equations, to modern numerical analysis and to spline functions theory. in Mathematical Contributions of D.V. Ionescu (I.A. Rus-Ed.), 77–94, Babeş-Bolyai Univ., Dept. Appl. Math. Cluj-Napoca, 2001.
- [55] Micula G., Micula M., The "D.V. Ionescu method of function  $\varphi$ " and spline functions. Libertas Math. 21 (2001) 15–26.
- [56] Mises R. von, Uber allgemeine quadratur formeln. J. fur die Reine und Angew. Math. 174 (1936) 56–67.
- [57] Muntean F., Extension d'un théoreme relatif à des systemes d'équations (Romanian). Studia Univ. Babeş-Bolyai Math. 1960 107–120.
- [58] Muntean F. (Pascal), MR0403177(53S6990) 65D30.
- [59] Pál A. (Ed.), Lucrările Simpoziului D.V. Ionescu. (Romanian) [Papers of the D.V. Ionescu Symposium] Babeş-Bolyai Univ. Cluj-Napoca 1981.
- [60] Pavel P., On a quadratures formula (Romanian). Studia Univ. Babeş-Bolyai Math. 10 (1965) 59–71.
- [61] Pavel P. Sur un systeme d'équations aux dérivées partielles. Seminar on Fixed Point Theory Cluj-Napoca (1989) 121–138.
- [62] Peano G., Resto nelle formule di quadratura espresso con un integrale definito. Atti Acad. Naz. Lincei Rend. 22 (1913) 562–569.
- [63] Radó F., Caractérisation de l'ensemble des intégrales des équations différentielles linéaires homogenes à coefficients constants d'ordre donné. Mathematica (Cluj) 4 (1962) 131–143.
- [64] Radon J. Restausdrucke bei Interpolation und Quadratur Formeln durch bestimmte Integralen. Monatshefte für Math. und Phys. 389-396.
- [65] Rădulescu D., Sur une probleme de D.V. Ionescu. Studia Univ. Babeş-Bolyai Math. 26 (1981) 51–55.
- [66] Rus I.A., On a problem of Darboux-Ionescu. Studia Univ. Babeş-Bolyai Math. 26 (1981) 43–45.
- [67] Rus I.A., On the problem of Darboux-Ionescu. Babeş-Bolyai University Cluj-Napoca Preprint no. 1 (1981).
- [68] I.A. Rus (Ed.), Mathematical Contributions of D. V. Ionescu. Edited by Ioan A. Rus. Babeş-Bolyai University, Department of Applied Mathematics, Cluj-Napoca, 2001.
- [69] Stancu D.D., Numerical integration of functions by Gauss-Turán-Ionescu type quadratures. in Mathematical Contributions of D.V. Ionescu. Edited by Ioan A. Rus. Babeş-Bolyai University, Department of Applied Mathematics, Cluj-Napoca, 2001.

- [70] Stancu D.D., Coman Gh. (Eds.), Numerical Analysis and Approximation Theory. (Romanian) Vol. 1-3, Presa Univ. Clujeană Cluj-Napoca 2002.
- [71] Tchakaloff G., Uber eine Darstellung des Newton Differenzenquotienten und ihre Anwendungen. Congres Intern. des Math., Oslo 1936.
- [72] Teodoru G., The Cauchy-Ionescu problem for hyperbolic inclusions with modified argument. Liberats Math. 21 (2001) 5–14.
- [73] Teodoru G., The Goursat-Ionescu problem for hyperbolic inclusions with modified argument. Seminar on Fixed Point Theory Cluj-Napoca 3 (2002) 381–388.
- [74] Teodoru G., The Picard-Ionescu problem for hyperbolic inclusions with modified argument. Ann. Polon. Math. 83 (2004) 21–33.
- [75] Teodoru G., The Darboux-Ionescu problem for third-order hyperbolic inclusions with modified argument. Fixed Point Theory 5 (2004) 379–391.
- [76] Teodoru G., The data dependence for the solution of Darboux-Ionescu problem for hyperbolic inclusions of third-order. Fixed Point Theory 7 (2006) 126–146.
- [77] Trif D., Tehnici de simulare numerică cu Matlab. (Romanian) [Numerical Simulation with Matlab] Infodata Cluj-Napoca 2007.
- [78] Trîmbițaș R. (Ed.), Proceed, Inter. Symp. on Numerical Analysis and Approx. Theory. Cluj University Press 2002.

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# Communications :

## ( ) Conferences for Young Algebraists

Klaus Denecke\*

The following list gives some information on the future conferences of young algebraists:

1. AAA Linz (Austria), May 22-25, 2008
2. CYA (77. AAA), Potsdam, Februar 2009  
(dedicated to K. Denecke)
3. AAA Bern (Switzerland), June 11-14, 2009
4. CYA (79. AAA), Olomouc (Czech Republic), February 2010

See also pages 10 and 11 of Notices from the ISMS, January 2007.

## ( ) 5<sup>th</sup> China-Japan-Korea Joint Symposium on Optimization of Structural and Mechanical Systems ( CJK-OSM 5 ) First Call for Papers

On behalf of the local organizing committee of the 5th CJK-OSM, I am very happy to announce the first Call for Papers. The previous four symposia (the first CJK-OSM in Xian, China in 1999, the second in Busan, Korea in 2002, the third in Kanazawa, Japan in 2004 and the fourth in Kunming, China in 2006) have stimulated and promoted researches and interests in all aspects of optimization of structures and mechanical systems. Now after a decade of successful gatherings and interactions among the experts and students, CJK-OSM becomes a well established tradition. Following this, the 5th CJK-OSM will be held in Jeju Island, a magnificent Island, during June 16-19, 2008. Specially noted is that now CJK-OSM is recognized as an official conference sponsored by ISSMO (International Society of Structural and Multidisciplinary Optimization). We are most happy to welcome people not only from Asian regions as done before but also from other parts of the world. The progress of local organization will also be announced on the official ISSMO website:  
<http://www.issmo.org>.

### Conference Information

Title	5th China-Japan-Korea Joint Symposium on Optimization of Structural and Mechanical Systems
Dates	June 16-19, 2008
Venue	Haevichi Hotel & Resort, Jeju, South Korea
Organized by	Korea Society for Precision Engineering KAIST Valuefactory Institute of Mechanical Engineering Innovative Design Education Program for Mechanical Engineers, Hanyang University National Creative Research Initiatives Center for Multiscale Design of Seoul National University Gwangju Institute of Science and Technology
Sponsored by	ISSMO (International Society of Structural and Multidisciplinary Optimization) The Korea Federation of Science and Technological Societies Korea National Tourism Organization Jeju Convention & Visitors Bureau

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\*Klaus Denecke is a professor of University of Potsdam, Institute of Mathematics, an Editor of SCMJ, and an Editor of Notices from the ISMS.

## Organizing Committee

- General Chairman: Prof. Byung Man Kwak, KAIST, Korea
- Co-chairmen: Prof. Gengdong Cheng, Dalian University of Technology, China  
Prof. Koetsu Yamazaki, Kanazawa University, Japan
- Conference Secretary: Prof. Gyung-Jin Park, Hanyang University, Korea

Following the tradition, there will be Organizing Committee (about 5 members from each of China, Japan and Korea), Advisory Board (about 4 members from each country), Scientific Committee (about 5 members from each) and Local Organizing committee from Korea.

### Program (Tentative)

Time	DAY 0	DAY 1	DAY 2	DAY 3	DAY 4
		6/16(Mon)	6/17(Tue)	6/18(Wed)	6/19(Thu)
8:30			Technical Session (3 sessions)	General Lecture	Excursion
9:00		Opening Ceremony & Group Photo			
10:00		General Lecture	coffee Break	coffee Break	
11:00			Technical Session (3 sessions)	Technical Session (3 sessions)	
12:00		Lunch Break	Lunch Break	Lunch Break	
13:00					
14:00		Technical Session (3 sessions)	Technical Session (3 sessions)	Technical Session (3 sessions)	
15:00		coffee Break	coffee Break	coffee Break	
16:00		Technical Session (3 sessions)	Technical Session (3 sessions)	Technical Session (3 sessions)	
17:00		Break		Break	
18:00					
19:00		Welcome Cocktail		Banquet	

### Contact

- 1) Conference Secretary :  
Prof. Gyung-Jin Park  
Tel. +82 31 400 5246 Fax. +82 31 407 0755 Email. gjpark@hanyang.ac.kr
- 2) Conference Agency : BMD Co., Ltd.  
Tel. +82 2 3446 3377 Fax. +82 2 3446 2903 Email. secretariat@cj5.org

## Abstract Submission Guidelines

Authors are invited to submit an abstract of 500 words or less in English. Abstracts from China and Japan will be collected and reviewed first by the scientific committee members from China and Japan, respectively. Other abstracts should be submitted to the conference secretariat, and will be reviewed first by the scientific committee members from Korea. The deadline of the collection and first review is March 20, 2008. Detailed format, dates and submission points will be announced soon.

- 1) Abstract submission should be processed by e-mail to the country's chairperson  
Korea and other countries: Conference Agency (secretariat@cjks5.org)  
China: country chair Prof. Gengdong Cheng (chenggd@dlut.edu.cn)  
Japan: country chair Prof. Koetsu Yamazaki (yamazaki@t.kanazawa-u.ac.jp)
- 2) Submission of an abstract does not constitute registration for the symposium. Presenters are also required to register for the symposium.
- 3) Symposium Topics  
Optimization Methods  
Structural Optimization  
Topology Optimization  
Geometric and Shape Optimization  
Multidisciplinary Optimization  
Multi-Scale Optimization  
Optimization Methods in Bio-mechanics and Bio-medical Engineering  
Optimization Methods in Advanced Materials and Nanomechanics  
Genetic Algorithms and Fuzzy Optimization  
Approximation Methods  
Multi-objective Optimization  
Global Optimization  
Robust and Reliability-based Optimization  
Software Development and Practical Application  
Other Areas Related to Optimization
- 4) Important Dates  
Deadline of Abstract Submission: 20 March 2008  
Notification of Acceptance: 30 March 2008  
Deadline of Extended Paper Submission: 20 May 2008 (Extended abstracts of 2 or 4 or 6 pages are solicited)

## Registration

Interested participants for the CJK-OSM 5 may pre-register by completing the registration form and sending it via fax (+82-2-3446-2903) or online through the symposium website after 20 January 2008.

Category	Pre-registration Until 20 May 2008	Standard Registration After 21 May 2008
General	USD 500	USD 550
Student	USD 300	USD 350
Accompanying Person	USD 200	USD 250

### Notes

- General Registration includes Admission of Technical Sessions, Welcome Reception,

- Excursion, Banquet, Lunches, Coffee Breaks and a Symposium Kit
- Student Registration includes Admission of Technical Sessions, Welcome Reception, Excursion, Lunches, Coffee Breaks and a Symposium Kit
- Accompanying Person's Registration includes Welcome Reception, Banquet, Lunches, and Coffee Breaks

### **About Jeju, A Magnificent Island!**

Jeju has a mild oceanic climate throughout the year. The island came into existence 700 to 1,200 thousand years ago when lava spewed from a sub-sea volcano and surfaced above the waters. Then 100 to 300 thousand years ago, another volcanic eruption formed Mt. Halla. The final volcanic eruption that took place approximately 25 thousand years ago created the crater lake, Baekrok-dam, at the summit of the mountain. Relatively isolated from the rest of the world, the island's nature has been well preserved in its prehistoric state. Jeju's natural environment has been preserved well. The fantastically shaped rocks decorating the seashores, the hundreds of Oreums (secondary volcanoes) and the rarest species of flora around the Baekrok-dam lake are all treasures waiting to be discovered by visitors.

Official Agency of CJK-OSM 5

BMD Co., Ltd. | Tel. +82 2 3446 3377 Fax. +82 2 3446 2903 Email. secretariat@cj5.org

### **( ) Call for Proposals and Organizers for Special Sessions in IVMS 2008 and IVMS 2009**

The ISMS holds inter-regional videoconferences via internet. The first videoconference was held in December 2003, the second in June 2004, and the third in March 2005. We are planning a videoconferencing system that will be able to connect up to four research sites, at present. Therefore presenters may be asked to travel to one of these local sites in order to present. The international videoconference consists of special sessions only. These sessions will be devoted to special fields of study, for example Fixed point theory and its applications. Each session's organizers will decide the type of the videoconference: presentation of original papers (contributed and/or invited papers) and/or expository articles, or tutorials. Speakers of the session can write on a white board or an OHP sheet, or can use Power Point. Participants can ask questions or make comments. All these are performed similarly to the traditional meetings. Organizers of the sessions chair their meeting at their co-ordination sites and can turn the speakers' sites.

Time differences between local sites will become an important factor. Please note the following possibilities: **There are three combinations of connections for inter-regional videoconferences:**

- (1) Europe (morning) – Asia (evening) for 4 hours from 08:30(GT) to 12:30(GT)
- (2) Asia (morning) - West coast area of USA (evening) for 4 hours from 23:30(GT) to 03:30(GT)
- (3) Asia (around noon) - Asia (evening) for 4 hours from 16:00(GT) to 20:30(GT)

Every IVMS is performed through three steps.

- (1) Trial of link in advance between (1) organizer and Osaka Nakanoshima Center (ONC) and (2) co-organizer and ONC are recommended.
- (2) In the first step, all papers are presented on the homepages of the ISMS. (<http://www.jams.or.jp/ivms/index-ivms.html>)
- (3) In the second step of the IVMS, all papers are presented similarly to the usual assembly type meeting via internet, often using CD-ROMs or DVDs which are sent beforehand, when the author can't use VC system via internet.

#### **Scheme of Videoconference**

##### **1) Videoconference System**

In order to have a videoconference with us, your institutions should have one of the following in the descending order of desirability.

1. Videoconference room
2. Facilities for distance learning
3. Facilities in computer centers

Making use of one of the above, your institutions can be connected with our system(TANDBERG 6000 or TANDBERG 550) at Nakanoshima Center of Osaka University as far as your system satisfies the following ITU-T standards.

**International Standards of Videoconference System**

ITU-T	over IP H.323
Video Coding	H.261, H.263
Audio Coding	G.711, G.723 G.722, G.728
Multiplexing (Mux/Demux)	H.225
System Control	H.245
Transmission Rate	64kbps 128kbps 384kbps

Image dimensions: CIF:352 × 288, QCIF:176 × 144, SQCIF:128 × 96

The following products are assured to be able to be connected with our “TANDBERG 6000”.

**H.323 Endpoints(over IP)**

**Equipment Software Revision**

Polycom View Station 512MP 7.0.1, 7.2.4, Polycom ViewStation FX 4.2,5.0

Polycom Via Video 5.0,PictureTel 970 5.0.0.415,PictureTel 680 5.0.0.415

PictureTel(Intel) TeamStation 4.0a,Microsoft NetMeeting 3.01

VCON Vigo 4.6, VCON Falcon 0300.M07.D28.H11, VCON Cruiser 384 4.6

VTEL Galaxy 2.2.0.070, Sony PCS-1600 3.10, Sony PCS-6000 5.00

D-Lonk i2Eye 2.0.0.20

**2) Organizers**

Organizers should appoint invited speakers and call for papers for their sessions. The selection of the papers is left to the organizers’ own choice. They should inform the ISMS of their programs with the titles, author’s names of the papers. They should send the following “Form of Application of Organizers” to the ISMS.

**3) Application Form for Organizers**

Every organizer should inform the following data to the ISMS program committee (Through the homepage of the ISMS. [http://www.jams.or.jp/hp/ivms\\_orhanizers.html](http://www.jams.or.jp/hp/ivms_orhanizers.html) )

1. Name of the organizer
2. E-mail address
3. Title of the planned special session
4. Names of the co-organizers of the joint universities/societies and their affiliations, if any.
5. Name(s) of the invited speakers, if any.

**4) Participation**

Individuals who wish to participate the videoconference can designate a session or sessions in which they are going to participate.

- (1) For participants, these can be five sites that are connected with our key site simultaneously. The foreign participants can go to the nearest university announced on our web page as the joining sites.
- (2) The application for participation can be made on the web inputting the required data in the registration form on the ISMS homepage.  
([http://www.jams.or.jp/hp/ivms\\_organizers.html](http://www.jams.or.jp/hp/ivms_organizers.html)) or write items in the following forms and send by post to the International Society for Mathematical Sciences, 2-1-18 Minami Hanadaguchi, Sakai, Osaka 590-0075, Japan  
Applicants can mail also by post the following data 5)1~5 both to the ISMS managing office and to the organizer of the session in which they wish to participate.
- (3) The participation fee to cover the head office cost is free. Please note that local sites may request an additional fee to cover local costs.
- (4) The ISMS will give a password to the participants to enter the session of the web.

#### **5) Presentation on the WWW**

Programs, abstracts of the papers, (and the full text of the papers) if the author wishes of each session will be located beforehand on the web.

**6) Connection Test on March 29, 2008:** 15:30-17:00 (Japan time) on March 29, 2008 ((See (III) on the page 17))

#### **7) Publication in SCMJ**

Authors should designate one of the editors and send their papers both to the editor and to our office. In the case of the papers to be presented in IVMS, the organizers, the co-organizers and the invited speakers can, upon their approval, referee in place of the editors. The editorial board expects this will ensure the papers to be refereed quickly and published adequately.

#### **8) ISMS (JAMS) Prize Winners**

Winners of ISMS (JAMS) Prize can give their lectures or speeches at IVMS if they wish.

#### **9) FAQ about videoconference**

- (Question 1) Where do the authors (lectures, speakers) present his/her paper in the videoconference?  
 (Question 2) Is there any limitation to the length of the lecture?  
 (Question 3) Can the authors make lectures using OHP?  
 (Question 4) What should the authors do expect for making lectures?  
 (Question 5) Is there any limitation to the length of the papers?  
 (Question 6) Is there any limitation to the length of the abstract?  
 (Answer 1) As the conference sites are announced on the web before the videoconference, the authors go to the nearest site to present their papers.  
 (Answer 2) It depends on the organizers of the sessions. Please ask the organizers directly. We are thinking of 30 minutes as a rough standard including questions and answers.  
 (Answer 3) Yes, they can. They can also use white boards. However, please ask the organizers if it is possible at their site.  
 (Answer 4) They should submit the papers (including abstract) for the web, which will be located on the web in advance.  
 (Answer 5) It depends on the organizers of the sessions. Please ask the organizers directly. We are thinking of fifteen pages as a rough standard.  
 (Answer 6) It should be within 20 lines in Word style.

## **The ISMS**

**( ) International Society for Mathematical Sciences**

**----- Contributions**

Dear Colleagues and Friends,

In September 2007, we establish the following two funds.

**(1) International ISMS Prizes Fund**

in order to award the prizes for the original papers or survey works published in *Scientiae Mathematicae Japonicae* or Notices from the ISMS.

**(2) International Research Promoting Fund**

in order to promote and support international joint meetings by IVMS.

The contributions are classified into the following five categories.

- (A) ¥ 500,000 (or \$5,000) and above
- (B) ¥ 100,000 (or \$1,000) and above
- (C) ¥ 50,000 (or \$500) and above
- (D) ¥ 10,000 (or \$100) and above
- (E) Less than ¥10,000 (or \$100)

We deeply appreciate your generous contributions to support the above activities of our society.

Your remittance to the following accounts of ours will be much appreciated.

**(1) Through a post office, remit to our giro account ( in Yen only ):**

No. 00930-1-11872, Japanese association of Mathematical Sciences (JAMS )

or send International Postal Money Order (in US Dollar or in Yen) to our address:

International Society for Mathematical Sciences

2-1-18 Minami Hanadaguchi, Sakai, Osaka 590-0075, Japan

**(2) Through a bank, make remittance to the following account of JAMS.**

A/C 94103518

CITIBANK, Japan Ltd., Shinsaibashi Branch

Midosuji Diamond Building

2-1-2 Nishi Shinsaibashi, Chuo-ku, Osaka 542-0086, Japan

Kiyoshi Iseki

Tadashige Ishihara

**( )Business Meeting (2008) and IVMS**

The business meeting (2008) will be held on March 29, at Osaka University Nakanoshima Center as follows.

Data: March 29, 2008

Place: 7F Seminar Room at Osaka University Nakanoshima Center

Time: 13:00-14:00(Japan Time)... business meeting Test and IVMS Test among joining Universities

14:00-15:30(Japan Time)... business meeting

Agenda: 1. Financial Report for the fiscal year 2007

2. Budget for the fiscal year 2008

3. Honorary Member

4. Miscellaneous

15:30-17:00(Japan Time)... IVMS among proposed Universities

# Call for ISMS Members

## Call for Academic and Institutional Members

**Discounted subscription price:** When organizations become the Academic and Institutional Members of the ISMS, they can subscribe our journal *Scientiae Mathematicae Japonicae* at the yearly price of US\$300. At this price, they can add the subscription of the online version upon their request.

**Invitation of two associate members:** We would like to invite two persons from the organizations to the associate members with no membership fees. The two persons will enjoy almost the same privileges as the individual members do including the discount of the page charge. Although the associate members cannot have their own ID Name and Password to read the online version of SCMJ, they can read the online version of SCMJ at their organization.

To apply for the Academic and Institutional Member of ISMS, please use the following application form.

-----

### Application for Academic and Institutional Member of ISMS

<b>Subscription of SCMJ</b> Check one of the two.	Print (US\$300)	Print + Online (US\$300)
<b>University (Institution)</b>		
<b>Department</b>		
<b>Postal Address</b> where SCMJ should be sent		
<b>E-mail address</b>		
<b>Person in charge</b>	Name: Signature:	
<b>Payment</b> Check one of the two.	Bank transfer	Credit Card (Visa, Master)
<b>Name of Associate Membership</b>	1.	
	2.	

**Call for regular Members  
ISMS Membership Dues from 2007**

A new category “life member” has been established and can be applied for from 2005. An eligible member may become a life member by making a one-time payment of dues. A member who has been an ISMS member for ten years or more is eligible for a life member. The amounts of dues are : ¥70,000 for the domestic members, US\$ 600 (€480) for the foreign members, and US\$ 500 (€400) for the members in developing countries.

We have reduced the ISMS membership dues since 2001 and copies of the printed journal have not been distributed to the members, free of charge. Instead, we give User Name and Password to each member so that he/she can view or print out the full text of the papers published in SCMJ except papers in the international plaza from our Web site (<http://www.jams.or.jp>).

The Membership Dues for each category is as follows. Applications for the 3-year members can be made only in 2005 and in every three years.

**Membership Dues for this year**

Categories	Domestic	Overseas	Developing countries
1-year member (1A)	A1: ¥9,000	F1: US\$75 , €60	D1: US\$45, €36
3-year member (3A)	A3: ¥24,000	F3: US\$200, €160	D3: US\$117, €93
1-year students or aged (1S)	SA1: ¥5,000	SF1: US\$40, €32	SD1: US\$27, €21
3-year students or aged (3S)	SA3: ¥12,000	SF3: US\$100, €80	SD3: US\$71, €57
Life member* (L)	AL: ¥90,000	FL: US\$740, €592	DL: US\$616, €493

\*The members who have been the ISMS members for more than 10 years are eligible for this category. The categories 1S and 3S are for students or persons over 70 years old. The figure 1 and 3 means a year and 3 years respectively.

Category D is for those who reside in the countries of Eastern Europe, CIS or developing countries.

\*\*\*\*\*

**Payment Instructions**

Payment can be made through a post office or a bank, or by credit card. Members may choose the most convenient way of remittance. Please note that we do not accept payment by bank drafts (checks). For more information, please refer to an invoice.

**Methods of Overseas Payment:**

Payment can be made through (1) a post office, (2) a bank, (3) by credit card, or (4) UNESCO Coupons.

Authors or members may choose the most convenient way of remittance as are shown below. Please note that **we do not accept payment by bank drafts (checks)**.

(1) Remittance through a post office to our giro account No. 00930-1-11872 or send International Postal Money Order to our postal address (2) Remittance through a bank to our account No. 94103518 at Shinsaibashi Branch of CITIBANK (3) **Payment by credit cards** (AMEX, VISA, MASTER or NICOS), or (4) Payment by UNESCO Coupons.

**Methods of Domestic Payment:**

Make remittance

(1) to our Post Office Transfer Account - 00930-3-73982 or  
(2) to our account No.1565679 at SUMITOMO BANK, Sakai, Osaka, Japan.

All the correspondences concerning subscriptions, back numbers, individual and institutional memberships, should be addressed to the Publications Department, International Society for Mathematical Sciences.

## Membership Application Form (from 2007 September)

To determine what membership category you are eligible for, read "Join ISMS" on the inside of the back cover.

1. Name: Family Name, First Name, Middle Name (in this order)
2. Home Address
3. Name of Firm or Institution affiliation
4. Postal address to which correspondence should be sent
5. e-mail address
6. Telephone Number, Fax Number
7. Membership Category
8. Panel (Please choose one out of the following 14panels in the page 26 and write the panel number. You could choose one or more.)
9. Would you like to buy the printed copies of SCMJ, whose prices a year are US\$60(6,000yen) for 1-year-members(A1, D1, S-A1, S-D1)and US\$55(5,500yen) for 4-year-members(A4, D4, S-A4, S-D4) ? Type YES or NO.
10. If you apply for an aged member (70 years old or over), please type the year of your birth.
11. If you wish to be a student member, please verify.
12. Is your university (institution) an Academic or Institutional Member of the ISMS? Yes or No.
13. If the answer of 12 is Yes, please answer the following. Are you designated associate member by your university (institution)?
14. Date
15. Signature

For Japanese Applicants, please send two application forms, one in English and the other in Japanese.

I wish to enroll as a member of ISMS and will pay to International Society for Mathematical Sciences the annual dues upon presentation of an invoice. Copies of *Mathematica Japonica*, *Scientiae Mathematicae* and *Scientiae Mathematicae Japonicae* received as an ISMS member will be for my personal use and shall not be placed in institutional, university or other libraries or organizations, nor can membership subscriptions be used for library purposes.

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## Join ISMS !

**ISMS Publications:** We published **Mathematica Japonica (M.J.)**, which enjoyed an international reputation, for about sixty years in print and its offshoot **Scientiae Mathematicae (SCM)** both online and in print. In January 2001, the two publications were unified and changed to **Scientiae Mathematicae Japonicae (SCMJ)**, which is the “21<sup>st</sup> Century New Unified Series of Mathematica Japonica and Scientiae Mathematicae” and published both online and in print. Ahead of this, the online version of SCMJ was first published in September 2000. The number of the annual total pages of the print version has been from 900 to 1,200 pages in six issues since January 1978. The whole number of SCMJ exceeds 240, which is the largest amount in the publications of mathematical sciences in Japan. The features of SCMJ are:

- 1) About 90 eminent professors and researchers of not only Japan but also 20 foreign countries join the Editorial Board. The submitted papers are received directly by the editors and are refereed quickly. The accepted papers are published online with no lead time after compiling or proofreading. SCMJ is reviewed by *Mathematical Review* and *Zentralblatt* from cover to cover.
- 2) SCMJ is distributed to many libraries of the world. The papers in SCMJ are introduced to the relevant research groups for the positive exchanges between researchers.
- 3) The original papers and surveys of distinguished mathematical scientist appear in every issue of SCMJ. The section called “International Plaza” of SCMJ has very interesting expository papers written by the eminent mathematical scientist of the world. Presentations of recent research frontier including award lectures by the winners of the ISMS Prize or Shimizu Prize are made.
- 4) **ISMS Annual Meeting:** Many researchers of ISMS members and non-members gather and take time to make presentations and discussions in their research groups every year.
- 5) The ISMS holds inter-regional videoconferences called **International Videoconference of Mathematical Sciences (IVMS)** via internet. There is no need for the participants to travel abroad.

**Privileges to ISMS Members:** (1) Free access (**including printing out**) to the online version of SCMJ, (2) Discounted price for the printed version of SCMJ (See **Table 1**), (3) Discounted page charges (See **Table 2**).

**Privileges to Institutional Members:** (1) Two associate members can be registered, free of charge, from an institution. (2) The discounted page charges (Table 2) are applied to the associate members.

**Table 1: Subscription Price (from 2007)**

	Individual 1-year mem.	Individual 3-year mem.	Institutional member	List Price
Print / year	¥ 6,000 US\$60, €48	¥ 5,500 * US\$55, €44	¥ 33,000 US\$300, €240	¥ 45,000 US\$400, €320
Online/year	Free	Free		
Online+Print / year	¥ 6,000 US\$60, €48	¥ 5,500 * US\$55, €44	¥ 33,000 US\$300, €240	¥ 45,000 US\$400, €320

Postal charge is US\$2 (€1.6) per issue. \*In case three-year members make the payment at a time in advance, the price for 3 years is ¥ 15,000 (US\$150, €120). The authors can buy a copy of the print version at a price of ¥ 1,200 (US\$12) per issue including postage.

**Table 2: Page Charge per printed page**

	Individual/Associate Member	Non Member
Paper : P	¥ 3,850 (US\$35, €28)	¥ 4,450 (US\$43, €35)
TeX: T	¥ 2,200 (US\$18, €14)	¥ 2,800 (US\$26, €21)
ISMS style: Js	¥ 1,100 (US\$8, €7)	¥ 1,700 (US\$16, €14)

The above page charges include 20 offprints.

**Table 3: Membership Dues for this year**

Categories	Domestic	Overseas	Developing countries
1-year member (1A)	A1: ¥ 9,000	F1: US\$75, €60	D1: US\$45, €36
3-year member (3A)	A3: ¥ 24,000	F3: US\$200, €160	D3: US\$117, €93
1-year students or aged (1S)	SA1: ¥ 5,000	SF1: US\$40, €32	SD1: US\$27, €21
3-year students or aged (3S)	SA3: ¥12,000	SF3: US\$100, €80	SD3: US\$71, €57
Life member* (L)	AL: ¥ 90,000	FL: US\$740, €592	DL: US\$616, €493

\*The members who have been the ISMS members for more than 10 years are eligible for this category. The categories 1S and 3S are for students or persons over 70 years old.

# International Society for Mathematical Sciences

## ----- Contributions

To Colleagues and Friends:

In September 2007, we established the following funds.

- (1) International ISMS Prizes Fund  
in order to award the prizes for the original papers or survey works published in *Scientiae Mathematicae Japonicae* or *Notices from the ISMS*.
- (2) International Research Promoting Fund  
in order to promote and support international joint meetings by IVMS.
- (3) Fund for Invited Authors  
in order to enhance the section called "Articles" in the *Notices from the ISMS* and the section called "International Plaze" in the *SCMJ*.
- (4) Fund for Keynote Speakers  
in order to support keynote speakers in IVMS.

The contributions are classified into the following five categories.

- (A) ¥500,000 (or \$5,000) and above
- (B) ¥100,000 (or \$1,000) and above
- (C) ¥50,000 (or \$500) and above
- (D) ¥10,000 (or \$100) and above
- (E) Less than ¥10,000 (or \$100)

We deeply appreciate your thoughtfulness to support the above activities of our society.

The contributors can designate one of the above funds (1-4) or

(5) Any purposes.

For remittance instructions, please refer to the page 17.