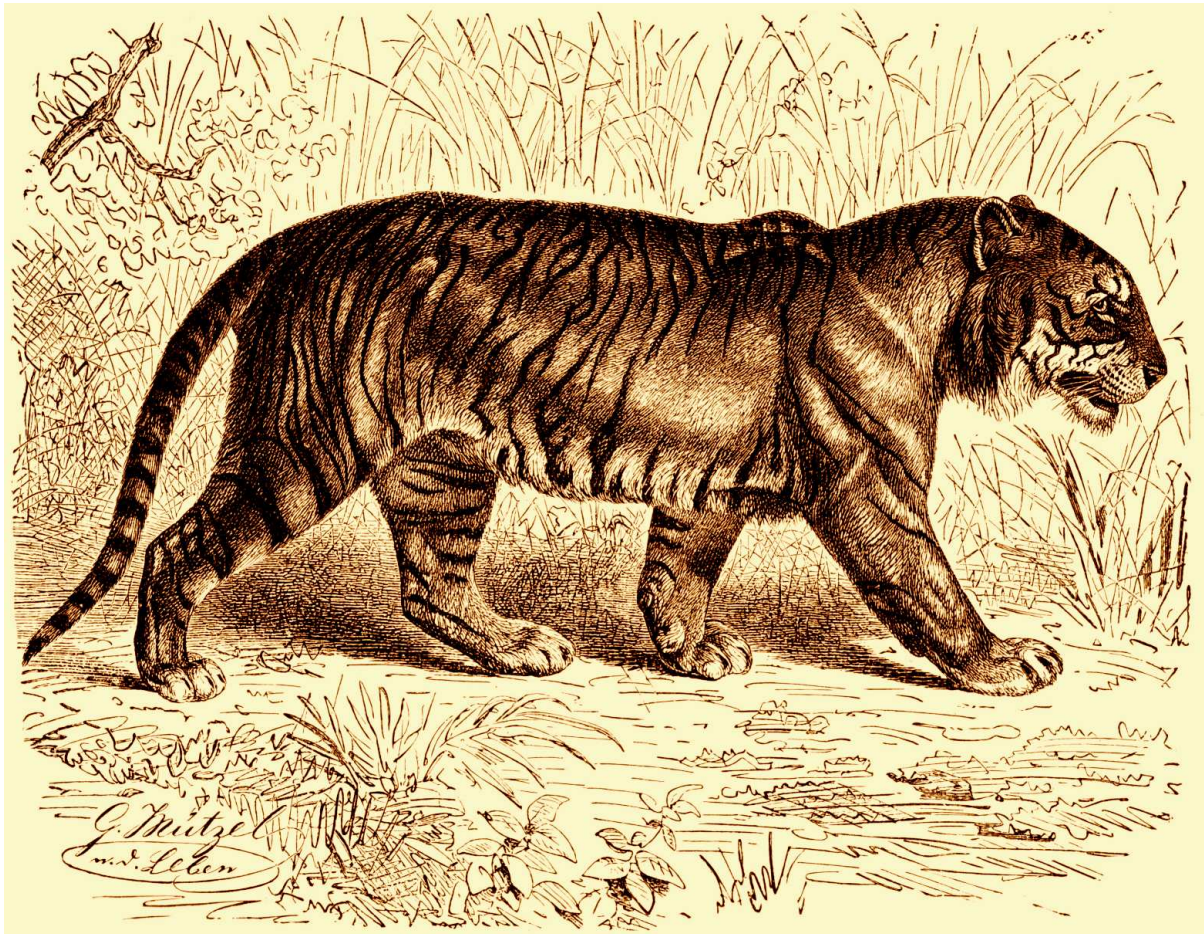


International Association of Mathematical Physics



News Bulletin

January 2010



A Happy New Year 2010 !

International Association of Mathematical Physics News Bulletin, January 2010

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Cover photo: An illustration of the Bengal Tiger by Gustav Mützel (according to the Chinese Zodiac, 2010 is the Year of Tiger).

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Entering the post-congress year

by PAVEL EXNER (IAMP President)



The life of the Association has its natural three-year cycles. After the year of our biggest meeting we enter the phase which may be more relaxed but not less important. The beginning of the new year brings some important changes. The most important probably is that we finished the membership check-up phase to which the present EC committed itself when it took office.

A visible manifestation of it is that we parted with numerous colleagues who figured in our member list, sometimes even for many years without being aware of their membership. A detailed account is given below in the article by László Erdős, our Treasurer. I do not hide that it was a hard decision, however, the EC is convinced that the situation when the Association looks large on paper while in reality its activities are permanently driven by a minority of members is untenable and potentially dangerous.

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This does not mean that we envisage the IAMP as a small club of like-minded people. On the contrary, we want it to grow and we see a potential for that. Our recent congresses are a good illustration of this claim: their speaker lists contain names of many colleagues who are highly appreciated in the mathematical-physics community but did not feel the urge to join our ranks. The only way to improve the situation is to make the Association more attractive by a common effort of all its current members.

A part of the structural update is an adjustment of the member dues. A fee rise is a highly unpopular item in any organization. We made this step, as László explains below, having in mind that our dues were kept fixed for a quarter of a century — one can hardly find another professional society which would do that — and currently they represent only a fraction of their original value. We believe that you will find the increase and related measures reasonable; future dues adjustments should follow a common pattern of small increments in a few-years periods.

The decision about the dues was not motivated, of course, by general principles but came from the realization that financial health of the Association is crucial for fulfilment of our mission to support mathematical physics worldwide. This entails both extension of our traditional activities like conference support as well as new ones discussed at the General Assembly; to quote just one example let me mention support of mathematical physics in developing countries where we certainly should do more than we are doing.

On behalf of the Executive Committee and its officers let me wish you a successful year 2010, a lot of interesting results, happiness in your personal lives — and a satisfaction with our community activities.

The changes the New Year brings

by LÁSZLO ERDŐS (IAMP Treasurer)



With the new Executive Committee (EC) elected for the period 2009-2011, Volker Bach had completed his maximal six year term as the IAMP treasurer and I took over his job at the beginning of 2009. This duty involves overseeing the finances and bank accounts of IAMP and maintaining the database of our members. The end of my first year in service is a good occasion to share with you my experiences and some insights about the financial situation of our Association. Moreover, the new EC has implemented after a thorough discussion some important changes in the structure of our membership categories and it has committed to enforce a regular payment of dues. Some changes may sound drastic but I hope I can explain our

motivations behind them and the results of these efforts.

1. Recent history

In the period between 2003 and 2007, Volker Bach implemented two important, related changes that have professionalized our database and dues collection. On Volker's initiative, his colleague in Mainz, Jürg Bauer, wrote a computer code for our membership list and its interactive web interface. Members can update their personal data and check their payment history after logging in with their member ID. Moreover, Volker made arrangements with *Safepay*, a professional company, to set up a safe online payment system which is incorporated in our web-based membership list, so members can now pay their dues by credit card with a few clicks. This replaced the previous system, when IAMP maintained several bank accounts in various countries and payment was possible only via direct bank deposits or personal checks. This was inefficient and sometimes involved large banking fees being charged on small amounts. The service of *Safepay* is not cheap either (we pay about 400 Euro/year) but overall it is much cheaper than the total bank transfer fees, moreover, it makes the payment much easier. As always, the implementation of our web-based system sounds easier to describe than to accomplish. The whole IAMP community should be grateful to Volker and Jürg Bauer for their engagement to complete this project.

2. Status of membership data

In contrast to the professionalism of the framework, the quality of the membership data is often poor; in many cases even the basic contact data are missing. I urge everyone to check (and update if necessary) their data in the membership list. This can be done by a few clicks; just go to the Membership list on www.iamp.org, login with your MemberID (which serves as a password) and you find various options next to your name. Note

that your data will be visible to everyone unless you choose the option that the data are accessible only by IAMP officers. If you are concerned about data protection, we urge you to choose this latter option instead of not providing the relevant data at all. They will never be given to third parties.

If you have forgotten your MemberID, the system can automatically send it to your email address we have on record. However, if your email address is obsolete or completely missing, we cannot reach you. We currently have around 400-500 registered members without valid email address, in several cases only the name or sometimes only the initials are on record... If you suspect you are one of them or you know someone who may be, please contact me using the address treasurer@iamp.org.

With the help of my secretary, Edith Höchst, we laborously investigated over 500 names searching for their possible contact data on the web. In this way we managed to identify about 100 members, we contacted them and in some cases we received a positive answer. In some other cases we figured out that the member wants to leave the association or has passed away.

3. Changes in payment structure

As you certainly know the Association has three membership categories. In addition to *ordinary members* (O), we have *lifetime members* (L) and those enjoying the *reduced dues status* (R).

Starting from Jan 1, 2010, becoming a lifetime member requires a total of 25 year dues paid after 1995 (our payment database is reliable only after 1995). Previously granted L status will, of course, remain unchanged. This rule replaces the former one when it was relatively easy for older members to achieve life membership (for people over 60 it costed only 5 year dues), but life membership was not attractive at all to younger colleagues (they would have to cover the dues until they are 65). We are happy to report, that after the new rule was installed, several younger colleagues have decided for lifetime membership; previously we had no lifetime member below 40.

Reduced dues status is an euphemism meaning no membership fees. New members enjoy this status in the year they join. Otherwise, R status is meant to support the membership of colleagues who are working in certain developing countries (technically: those which belong neither to EU nor to OECD) and whose professional income is very low (defined to be below 12,000 Swiss francs or equivalent yearly). The previous system has not followed up the possible substantial changes in individual circumstances and it practically granted R-status permanently. For instance, some colleagues received the R-status in the 80's when still working in the former Eastern bloc countries, and they retained it even after they took up positions in the West or their income has substantially increased at home.

Starting from Jan 1, 2010, members with R-status must (re)confirm their status every three years by applying for the renewal to the Treasurer. The application consists of a declaration that the member satisfies both eligibility criteria stated above. It is the duty of the member to seek for renewal of the R-status, otherwise (s)he will be automatically transferred to ordinary member status. Previously granted R-status will not be honored.

Currently we have about 110 members with an R-status granted before 2009 and only a handful of them have reapplied, despite my definite reminders. All others became ordinary members with obligation to pay membership dues starting from 2010. If you think you are eligible to the R status, please apply for it — if you have not yet done so.

4. Effect of the partial amnesty and enforcement of Paragraph 11c of the IAMP Statutes

At the beginning of 2009, the IAMP had over 1300 registered members. There were 946 ordinary members, 210 lifetime members and 119 reduced dues members (additionally, there were about 100 members in unknown category, in many cases only with their initial on record). However, only 163 ordinary members were in good standing with their payment and 783 were in payment arrears. This means that an organization with nominally 1300 members was financially supported by less than 400 members.

The new EC has committed itself firmly to change this untenable situation. Paragraph 11c of Section III of the IAMP Statutes asserts that membership shall be terminated if a member fails to pay membership dues for more than a year. This rule, however, has never been enforced. Moreover, reminders for payment have not been sent out regularly, so many members were not even aware of their payment arrears. Under these circumstances, the immediate enforcement of Paragraph 11c would have been unfair. The EC has introduced therefore a *partial amnesty* that allows members in arrears to restore their good-standing status if they pay their dues from Jan 1, 2008. It was stressed that the amnesty is a one-time action, ending on Dec 31, 2009. After that date, Paragraph 11c of the IAMP Statutes will be enforced automatically, i.e. non-paying members lose their membership.

During the second half of 2009 I sent out a series of more and more sharply toned reminders to about 550 members in arrears for whom we had an email address (about 230 members in arrears have no email address on record). Out of 550, about 200 email addresses bounced back our message and despite our investigation efforts, we could not identify any other valid email address. The reminders have thus supposedly reached about 350 members. About 90 of them have made use of the partial amnesty (and about 20 members have indicated that they want to leave the association for various reasons). We have no information about the intentions of the other members. I believe I have done everything possible to inform members in arrears about the consequences of their non-payment.

At the beginning of January 2010, we thus had to terminate the membership of about 640 ordinary members based upon Paragraph 11c. At the same time, about 100 members with R status have been converted to ordinary member status. I fear that many of them will neither pay their 2010 dues nor will they apply for prolongation of their R status, i.e. their membership will be terminated in January 2011.

Without any doubt, it has been a very drastic step; the IAMP has lost half of its members overnight. But the previous membership data with over 1300 members were simply unrealistic, a fiction which did not reflect the true size of our active membership base.

On the positive side, the partial amnesty has yielded a surge in dues payment. In the calendar year 2009 we had an unprecedented income of 22K euro from dues (in comparison, we had about 4-5K/year in the previous six years), but of course this was a one-time event. More importantly, we have increased our paying membership base by more than 40% (from 373 to 530).

5. Current membership base

After cleaning-up of our membership list and admitting 60 new members in 2009, we currently have about 280 ordinary members, 250 lifetime members and about 10 members whose R status was approved for the next three years. Additionally, we have about 100 additional ordinary members just converted from R members.

The IAMP also has a dozen of associate members (typically publishing companies or mathematics institutes). Similarly to individual members, most of them were in payment arrears in the last years. Our President, Pavel Exner, has contacted them individually asking them to restore their good-standing status. We are grateful to those associate members who continued their interest in IAMP which are — in the alphabetic order — Birkhäuser, Erwin Schrödinger Institute (Vienna), Fields Institute (Toronto), Max-Planck Institute (Leipzig), Microsoft, Springer, and World Scientific. We continue the negotiations with our other associate members and with potential new members.

6. Assets and the financial situation of IAMP

As I reported in my Treasurer's report at the ICMP in Prague, the finances of our Association are solid. We have total assets of about 110 thousand euros in three different banks worldwide. After setting up the credit card payment system, we closed the unnecessary accounts in Switzerland, Japan and UK. The main operating account of the IAMP is in Germany (Sparkasse Bielefeld) and is denominated in euros. We have a long term savings account in France (euro) and we maintain a checking and a savings accounts in the US (denominated in dollars). Since payment with checks is much more common in the US than elsewhere in the world, we decided to keep the US account operating in the future. Having assets in dollars also hedges against currency fluctuations and avoids paying conversion fees for expenses made in dollars.

Although our total assets have been diminishing in the last six years (by about 19K Euros in the period 2003-2008), the surge in dues payment in 2009 has made up for most of this loss. It was also essential for our balance sheet in 2009 that the ICMP in Prague did not use any support from IAMP (in contrast, the previous ICMP in Rio costed us about 17K USD and the preceding ICMP in Lisbon about 6K EUR).

7. Cashflow

The IAMP is almost entirely supported from membership dues, a small part is investment income (given the current interest rates, it will be less than 1000 Euro this year) and an

even smaller part is donations. Most of the membership dues come from individual members.

With the current membership base, we expect an average yearly dues income equivalent to 400 yearly individual membership fee (this calculation takes into account the dues from associate members and the lifetime member dues proportionally each year). At the current rate of membership dues, this is equivalent to 7.5K Euro/year (considering that 20 dollars is worth currently much less than 20 Euros, and about one quarter of the members pay in dollars).

On the expenses side, IAMP has almost 2K Euro/year administrative and banking expenses and we have to put aside 1K/year for the newly established Early Career Award. We need to set aside assets to support ICMP Aalborg in case the organizers cannot secure sufficient funds from elsewhere (IAMP supports ICMP in the form of a guarantee of 17K USD that may be drawn if necessary). Most importantly, IAMP supports conferences in mathematical physics on a competitive basis (organizers can apply to the EC). We receive about 6-8 qualified applications each year, but due to the lack of funding we can support only 2-3 of them with an amount of cc. 1500-2500 Euros.

8. Target

The new EC envisages a more active role of the IAMP in providing financial help to conferences in mathematical physics. We hope to be able to increase the number of supported conferences to 4-5/year. Together with our constant expenses, this would result in a yearly spending of 10-12K.

The dues income surge in 2009 described above was a one time event and it could only offset some constant deficit in the last years. The recent increase in the number of paying members is very encouraging, but alone it cannot cover the spending target.

9. New membership fees

The current membership dues (20 Euro or 20 USD) were established about quarter a century ago and left unchanged since then, which is without parallel in other professional societies. The EC regards this situation as unsustainable. In the first place, the rigid equality of the dollar and euro amount does not correspond to the actual exchange rate already for many years. More importantly, in real terms these dues have lost about half of their value since their establishment in the middle of the 80's. If IAMP wants to maintain or even increase its impact on mathematical physics, we cannot let our membership dues steadily decrease in real terms.

While raising membership dues is clearly not a popular step, the EC hopes that our members understand that after more than twenty years of constant dues, some increase is long overdue. The new individual membership dues from 2010 will be set at 27 EUR or 40 USD and the associate membership dues are ten times the individual dues.

While the new fees do not fully make up for the inflation since the 80's, a more drastic increase could be considered excessively unfair, especially since most members pay for several years. After this substantial increase, the EC regards as reasonable to adjust

the membership dues every 2-3 years in the future to avoid a similar shocking raise at once. The decision about that will be, of course, in hands of our successors. Moreover, the EC will adjust the relative amount of the EUR and USD dues to reflect the actual exchange rate. This adjustment will take place every year and will be computed based upon the Swiss franc that is our reference currency (from legal point of view, IAMP is an association under Swiss law); the dues given above correspond to 40 CHF.

10. Conclusion

Let me close this long and perhaps too technical article by expressing my hope (shared by the other members of the EC) that the IAMP members will welcome or at least understand both drastic steps (and a couple of smaller ones) that have been made during the first year of the new EC.

Cleaning up the database was a necessity if we wanted to have a realistic picture about the size of our community. Now we have a much smaller but active community of members who hopefully feel IAMP is important for them. The raise of the dues was unavoidable to increase (or even to maintain) the impact of IAMP without jeopardizing our long term financial security.

I am committed to enforcing a regular collection of dues; members who get in arrears in the future will receive reminders at due time and Paragraph 11c of the IAMP Statutes will be enforced after proper notifications. I believe that it is the primary interest of all members to maintain good payment practices. I would like to thank all our members for their continuing support of IAMP which is crucial for future well-being of the Association.

Let me finally point out that in addition to the regular payment of dues, it is possible to support IAMP by donations that can also be conveniently paid by credit card online. I am happy to answer further questions or remarks related to the finances of IAMP, please do not hesitate to write to treasurer@iamp.org.

IUPAP award for quantum many-body results

by BENJAMIN SCHLEIN (Cambridge, UK)



Benjamin Schlein obtained his Ph.D. in 2002 from the ETH Zurich under the supervision of Jürg Fröhlich. Since then he worked at different places, in particular, Courant, Stanford, Harvard, UC Davis and LMU Munich. Currently he is a lecturer at the University of Cambridge. At the Congress in Prague he was awarded a Young Scientist Prize from the IUPAP Commission for Mathematical Physics. The News Bulletin has asked him to share some of his reflections at this occasion.

It is a big honor for me to be, together with Rupert Frank and Simone Warzel, one of the 2009 IUPAP Young Scientist Prize winners for “results in the mathematical analysis of many-body quantum systems, in particular, Bose gases”.

In my research, I investigate the dynamics of many boson systems. In quantum mechanics, the time-evolution of an N boson system is governed by the Schrödinger equation. In typical situations, the number of particles N in systems of interests in physics is very large, and it is usually impossible to solve the full Schrödinger equation. For this reason, it is very important to have effective evolution equations which approximate the true evolution in different regimes.

In the mean field limit, each particle interacts very weakly with every other particle in the system. It turns out that in this regime, the many body Schrödinger evolution can be approximated, in an appropriate sense, by the effective one-particle (nonlinear) Hartree dynamics.

A different regime is relevant for describing the dynamics of initially trapped Bose-Einstein condensates (states with macroscopic occupancy of a single one-particle state). Here, the interaction among the atoms forming the condensate has typically a very short scattering length, of the order $1/N$, compared with the size of the traps. In this regime, it turns out that the evolution of the condensate wave function can be described by the effective Gross-Pitaevskii equation.

In joint works with L. Erdős and H.-T. Yau, we obtained a rigorous derivation of the Gross-Pitaevskii equation from many body quantum dynamics. In a joint work with I. Rodnianski, we derived the effective Hartree equation for Bose gases interacting through a Coulomb interaction (modeling, for example, systems of gravitating bosons), giving an explicit bound on the difference between the Schrödinger and the Hartree dynamics.

I believe that the study of the Bose gas (and in particular of its dynamics) is a great source of problems for mathematical physicists. There is a variety of mathematically challenging questions concerning Bose gases which are, in my opinion, of great relevance

in physics. This is, at the end, the essence of mathematical physics; to find interesting problems arising in physics which can be solved by a rigorous mathematical analysis.

To conclude, let me thank the International Union of Pure and Applied Physics, and specifically the Commission C18 for Mathematical Physics, for the prestigious prize and for the invitation to participate to the International Congress of Mathematical Physics held in Prague. I believe that the ICMP is a very important meeting for the community, and, in particular, for the young researcher, because it gives us the opportunity to keep in touch with other people in the field, to exchange scientific knowledge with them, and to have a global overview about the different directions in which the field is moving; it is otherwise difficult to keep track of progress in those areas of mathematical physics in which we are not working actively (it is important, in my opinion, to keep an open mind, and to avoid having a too narrow field of interests).

Party celebrating Professor Araki's 77th birthday

by MASAO HIROKAWA (Okayama, Japan)



Many mathematicians and physicists attended the party and celebrated Prof. Huzihiro Araki's 77th birthday. Japanese people have the custom of celebrating the long life of relatives and friends. According to some historical materials, such a custom came from China in the 8th century, and was brought to Japan around the 14th century. It is said that, in addition to the birthday celebrations of the ages of 60, 70, and 80, celebrating the 77th and the 88th birthdays too is a custom special to Japan. The party was held on the 5th of November 2009 and hosted by Prof. Izumi Ojima. Prof. Araki has aroused the interest of many young Japanese people in mathematical physics and C^* -algebras. Prof. Yasuyuki Kawahigashi and Prof. Yoshiomi Nakagami as well as Prof. Ojima are among them. They delivered congratulatory addresses to Prof. Araki on his 77th birthday individually.

We are preparing an interview with Professor Araki for the next issue of the IAMP News Bulletin.



Huzihiro Araki (Kyoto)

News from the IAMP Executive Committee

New individual members

IAMP welcomes the following new members

1. Dr. A.B. Rajib Hazarika, Dept. of Mathematics, Diphu Govt. College, Diphu, Assam, India.
2. Maryam al-Rashed, College of Basic Education, Kuwait.
3. Enno Lenzmann, University of Copenhagen, Denmark.

New associate members

IAMP welcomes new associate members:

1. The Steklov Mathematical Institute <http://www.mi.ras.ru/>.
See the presentation of Steklov Mathematical Institute on page 16.
2. The American Institute of Physics (AIP) <http://www.aip.org/>.
See the presentation of AIP on page 17.

Open position

- Deadline Spring, 2010: Chair and Professor of Physics,

http://www.physics.gatech.edu/school/faculty_search.html,

Georgia Institute of Technology, Atlanta, Georgia, USA. Position begins Fall 2010. Experience with the US higher educational system is desirable. Formal applications should be sent to science@cos.gatech.edu; suggestions and confidential inquiries can be sent to Evans Harrell on behalf of the search committee, eharrell@gmail.com.

- Deadline January 31, 2010: The Mathematical Physics group at Helsinki University is seeking a post-doctoral researcher in the field of dynamical systems and non-equilibrium statistical mechanics. The position is funded through a European Research Council (ERC) Advanced Grant and will be up to 3 years. The researcher will be working in an active research environment including the Center of Excellence in Analysis and Dynamics. Applicants should send a CV and three letters of recommendation by email to antti.kupiainen@helsinki.fi.

See also <http://www.iamp.org/positions.html>.

Recent conference announcements

- March 15 - 19, 2010: Arizona School of Analysis with Applications

<http://www.mathphys.org/AZschool/>,

University of Arizona, Tucson, Arizona, USA.

See also <http://www.iamp.org/conferences.html>.

Jan Philip Solovej (IAMP Secretary)

News from an Associate Member: Fields Institute

The Fields Institute for Research in Mathematical Science is located in Toronto, Canada, and hosts many workshops and conferences each year, as well as three “thematic programs”, each of 3 or 4 months duration. See our website

www.fields.utoronto.ca

for information on all aspects of the Institute.

There are several workshops in 2010 which might be of interest to physicists:

- April 2010, April 30 – May 2. Connections in Geometry and Physics Workshop. To be held at Perimeter Institute, Waterloo, Ontario. The focus will be on mathematical general relativity, gauge theory and mirror symmetry.
- June, 2010, tentative dates June 23–25 or July 3–5 Random matrix techniques in quantum information theory Joint Fields - Perimeter Institute Workshop. To be held at Perimeter Institute, Waterloo, Ontario. The goal of this workshop is to provide a synthesis of recent research trends related to quantum information theory and random matrices, and secondly to provide an introduction to recent developments at the interface of physics and mathematics for nonexperts.
- Aug 9–13, 2010 Fluid Motion Driven by Immersed Structures See

www.fields.utoronto.ca/programs/scientific/10-11/fluid_motion/

To be held at the Fields Institute The meeting will be organized around three main themes:

- * Formulation and analysis of the underlying governing equations.
- * Algorithmic and computational issues related to increasing accuracy and efficiency through use of adaptivity, novel time-stepping schemes and parallelism.
- * Applications to problems in the biological, physical and engineering sciences.

The keynote speakers will be John Dolbow (Duke University), Lisa Fauci (Tulane University), Zhilin Li (North Carolina State University) and John Lowengrub (University of California at Irvine).

- In addition, during January – June 2011, there will be a thematic Program on Dynamics and Transport in Disordered Systems See

www.fields.utoronto.ca/programs/scientific/10-11/disorderedsys

for more information.

Communicated by
Carl R. Riehm, Managing Editor of Publications
 Fields Institute for Research in Mathematical Sciences

A new Associate Member: Steklov Mathematical Institute

The Steklov Mathematical Institute was created in April 1934. The first director was I.M. Vinogradov, who led the Institute for 45 years (with only tree-year interruption). Since 1934 practically all famous Soviet and Russian mathematicians worked at the Steklov Mathematical Institute. One can recall the names of P.S. Alexandrov, S.N. Bernshtein, N.N. Bogoliubov, V.A. Fock, I.M. Gelfand, L.V. Kantorovich, M.V. Keldysh, A.N. Kolmogorov, M.A. Lavrentiev, N.N. Luzin, I.G. Petrovsky, L.S. Pontryagin, S.L. Sobolev, and I.M. Vinogradov. Researchers of the Institute have obtained outstanding results in different branches of pure and applied mathematics. For instance, six of the 23 Hilbert problems were solved at the Steklov Mathematical Institute and its St.Petersburg Department (an independent institute since 1996). There are 12 departments in the Institute and 115 researchers, including 88 professors. A Science-Educational Center was created in the framework of the Institute; lectures for undergraduate and graduate students are given there.

Four volumes of the *Proceedings of the Steklov Institute of Mathematics* are published annually, as well as *Lecture Notes of the Science-Educational Center*. The Institute is co-founder of eight leading Russian mathematical journals, including the journal *Theoretical and Mathematical Physics*, which has been published since October 1969. In 1972 the Institute organized the “International Conference on Mathematical Problems in Quantum Field Theory and Quantum Statistics” (the chairman of the organizing committee was N.N. Bogoliubov).

This meeting is now considered as the first in the regular series of contemporary International Congresses on Mathematical Physics with the last XVIth ICMP in Prague (2009). The conference in Moscow used the logo of the journal *Theoretical and Mathematical Physics*, $M \cap \Phi$: the intersection of mathematics and physics abbreviated by Cyrillic letters. Some years later, when the International Association of Mathematical Physics was created, this logo $M \cap \Phi$ was approved as the symbol of the new Association. The collaboration between the Steklov Mathematical Institute and the IAMP thus has a long tradition.

We are sure that scientific relations between the Institute and the International Association of Mathematical Physics will become more close and fruitful with time.

Communicated by
Andrei Pogrebkov
Steklov Mathematical Institute, Moscow

A new Associate Member: American Institute of Physics

Delivering Value in Science

The American Institute of Physics (AIP), an umbrella organization for ten Member Societies, represents 138,000 scientists, engineers and educators and is one of the world's largest publishers of scientific information in physics. AIP fosters the scientific enterprise by supporting scientific societies through scholarly publishing and information delivery. Offering full-solution publishing services, AIP pursues innovation in the electronic publishing of scholarly journals. Many AIP-owned journals are among the most highly cited in their field and form the core of physics literature in libraries worldwide. They include:

- Applied Physics Letters
- Biomicrofluidics
- Chaos
- Journal of Mathematical Physics
- Journal of Applied Physics
- The Journal of Chemical Physics
- Low Temperature Physics
- Physics of Fluids
- Physics of Plasmas
- Review of Scientific Instruments
- Journal of Physical and Chemical Reference Data
- Journal of Renewable and Sustainable Energy

AIP also serves the physics community with a suite of valuable resources: offering education and student services to cultivate the next generation of physicists; preserving the history of physics for future generations through AIP's Center for History of Physics and Niels Bohr Library & Archives; shaping of science and publishing policy through advocacy and by equipping policy makers and the public with reliable information on issues of concern to the scientific community; providing and disseminating science news; delivering quantitative analysis of trends in physics through education, supplying employment and salary data; and delivering employment services and supporting physicists in industry.

AIP is pleased to join IAMP as an Associate Member and is pleased to offer IAMP two special benefits: IAMP members may subscribe at member rates to AIP-owned journals or those journals of AIP Member Societies that AIP fulfills; and may also subscribe to *Physics Today*, AIP's flagship monthly magazine, at the discounted rate of \$59. AIP also proudly counts IAMP among its 25 Affiliated Societies. At the annual AIP Assembly of Society Officers, Member and Affiliated Society representatives convene to discuss areas of mutual concern. Session topics range from challenges/innovations in scientific publishing to public policy issues, from supporting/growing the membership base to trends in philanthropic giving, from supporting science education to promoting science as a viable career choice to a diverse population.

Pierre Duclos



On January 12, 2010, Pierre Duclos died suddenly in Prague of a heart attack while he was preparing to give a lecture.

Pierre Duclos was born on January 8, 1948 in Paris. While an engineering student he attended graduate courses of the Centre de Physique Théorique in Marseille, which inspired him to pursue the professional career of a researcher. He joined the Mathematical Physics team of the CPT and obtained a position at the University of Toulon, where he later became a full professor. Being full of energy and a smart and sociable person, he started and maintained many international collaborations and organized numerous conferences and seminars. In the early eighties he had strong ties with the Free and Technical Universities of Berlin. Later, he worked with mathematical physicists in Prague, Bucharest, Santiago de Chile, and, more recently, in Aalborg and Dublin.

His scientific interests aimed mainly at mathematical properties of quantum systems. He contributed significantly to our understanding of multiple well Schrödinger operators, geometrically induced properties of quantum waveguides, spectra of Wannier-Stark systems, dynamics with time-periodic perturbations, and transport in mesoscopic systems, among other subjects.

Pierre was appreciated not only for his scientific contributions but also for his strong Gallic personality. Colleagues who had the good fortune to collaborate with him, as well as the many students he educated, will always remember his blend of hard-working habits, strong views, and human warmth, which made him so unique. He will be remembered with gratitude and admiration by all who knew him well. We will miss him a lot.

Jean-Michel Combes
Pavel Exner
Valentin A. Zagrebnov