

## Zeitschrift der Fachschaft Informatik



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### Inhaltsverzeichnis

### Welcome

Dear Master-Students.

We are very glad to welcome you at the University of Bonn for your studies in Computer Science. You may already know how academic studies take place, but then again several things will probably be fairly new. This means not only new for you, but also for all your lecturers and also for us as a Fachschaft. You will be part of the first semester of the master program, so that means you will almost be able to feel all those novelties, which of course will have its good and bad sides.

However besides all those novelties, we, the Fachschaft, are here to ease your transition from whatever program you came to our master program in Computer Science. For those purposes we have compiled this magazine full of information on your Master program as well as your life in the town of Bonn.

The main part of this Inform consists of interviews with the lecturers and descriptions of their groups. Since you will have a lot of choices during your studies here this will definitely come in handy. Of course if you desire more information on a particular group the students and assistants of the lecturers will also be glad to answer those questions, that might arrive.

For any other questions you can of course also always visit us in our room (N1002b). We are definitely open during weekdays from 13:30 to 15:00 during our AWD, but you will be able to find someone at nearly every time of day (and sometimes even night). If you are interested to find out more about us, you can have a look at the article on page 8.

Now we just wish you good luck and much fun with all your studies and we look forward to meeting you...

#### Fachschaft Informatics









## **The Departments & Social Welfare**

#### The First Steps

Before you start helplessly groping around trying to find expedient information and getting panicky, first stop by the AStA. There you have the opportunity to get loads of interesting information. The "Uni-Handbuch" (University Guide) provides a general overview of the first steps concerning the studies, the political college groups, the AStA department etc. in Bonn. The "Sozialinfo" (social information leaflet) contains a composition of important information about everything concerning money, insurance and social contribution. If questions should arise then simply come by the AStA social department in room 15. Besides, you can get other helpful information from diverse booklets available there such as the AStA-BAföG leaflet and the "Stipendienführer" (scholarship guide). Furthermore, they can provide free notarisations and if you're hard-pressed for money they can even give short-time credits.

indeed eligible to receive BAföG should officially start getting the money the same month they filed the application. At least theoretically, because normally such an application takes time to be processed. In this case you will definitely get your money retroactively. So: Either hand in an informal application or a filled in "Formblatt 1" application form in due time and the application is considered submitted. The forms are available at the AStA as well as at the BAföG department and an informal application could look like this:

"Hiermit stelle ich ab dem tt.mm.jj einen Antrag auf Ausbildungsförderung. Die erforderlichen Unterlagen werde ich innerhalb der nächsten zwei Monate nachreichen. Ich bin geboren am ... Ich studiere seit/ab ... an der Universität Bonn im Fachbereich Informatik. Bitte übersenden Sie mir umgehend die erforderlichen Unterlagen."

(An approximate translation is: I hereby apply for an educational grant as from the tt.mm.jj. I will subsequently file the



### BAföG (Unfortunately Not) for Everyone

Apropos BAföG - everyone who thinks that he/she is perhaps entitled to get financial aid for their studies via the repayable state funding granted by the "Bundesausbildungsförderungsgesetz" (abbr.: BAföG) should file an application to the BAföG department as soon as possible. Those who are not sure should simply inquire whether or not they are entitled to BAföG and perhaps just file an application so as not to miss an opportunity. Those who are necessary documents within the next two months. I was born... I am a student at the University of Bonn since... at the Faculty of Informatics. Please promptly send me the required documents.)

It's as easy as that. The disbursement normally takes place at the end of the month for the respective next one. The amount that you get is made up of 50 % interest-free credit whereas the other half is an allowance. The maximum funding period for the informatics is currently nine semesters, although there are exceptions where you can get prolongations. Such exceptions can be for example semesters spent studying abroad or occupation in committees like Fachschaft activity. The continuation of the grant payments after the fourth semester is dependent of your "Leistungsnachweis" (performance records) and other things. So it is worthwhile to timely inform yourself. For further questions address the BAföG department or the BAföG consultancy provided by the AStA. On the internet you'll find a BAföG calculator with which you can calculate how much funding you will get; the address is: http://www.bafoeg-rechner. de/.

### Loan for Tuition Contribution Fees

There's the option of getting a loan of 500€ per semester for the tuition contribution fees from the NRW.Bank. If you are interested in this possibility then download the loan application from http://www.bildungsfinanzierung-nrm.de/. (Under "Studienbeitragsdarlehen" >> "Formulare und Vordrucke"). You can fill it out on your computer and then print it. Then you simply bring the form with you to your enrolment. Unfortunately, it is only possible to file an application for this loan during the enrolment or the confirmation. Normally, you get funding for up to 13 semesters for tuition contribution fees. Since this funding is a loan you will have to repay the amount with the interest. Until June 14th 2008 the interests are guaranteed to stay under 5.9 %. As a rule, one starts repaying the loan two years after the conclusion of one's studies or eleven years after the beginning of one's studies. However, BAföG recipients must only repay up to 10,000 € for the tuition contribution fee loan and the BAföG funding (interest included) put together.

### Running Around for the Registration and Deregistration

By the way, as soon as you've found a room you are obliged to undertake a visit to the "Bürgeramt" (that's the administrative office for citizens). You must go there one week (at the latest) after you have moved in and notify that you have changed your address (either ger.: "Anmeldung" = registration, or ger.: "Ummeldung" = change of registration). Hereby, you must decide whether you want to register your resi-

dence in Bonn as your primary residence or as your secondary residence. Generally, the "Einwohnermeldeamt" (population registry office) will consider the location of your studies as your primary residence since the students usually spend more time there than for instance at their parents'. Yet if one has a primary residence near Bonn and specifies that he/she spends the weekends and semester breaks there, then it shouldn't present a problem to register Bonn as a secondary residence.

#### Small "Welcoming Presents"

For those who are indifferent to where their primary residence is should know that in the case of registering their primary residence in Bonn one will be "rewarded" so to say with a book of vouchers for the theatres, museums, a visit to the swimming pool and the like. Furthermore, students who receive BAföG funds have the possibility to apply for a so called "Bonn-Ausweis" (Bonn ID). The latter also gives one several additional reductions. Applications can be handed in at the "Sozialamt" (social security office) in Beuel, at the old "Stadthaus" (city hall) of Duisdorf and also at the "Rathaus" (council hall) of Godesberg. However, for some of you the registration of a primary residence in Bonn can lead to the cessation of receiving a "Kinderfreibetrag" (child allowance) for your parents, which is dependent of their income. So you should ask around first before make a conclusive decision. By the way, during your registration you can determine that your data is not allowed to be forwarded to any political groups (for instance in case you don't want to get mail from some political group you do not like).

### **GEZ Remission**

Finally, you can also apply for a "Rundfunkgebührenbefreiung" (remission of the TV and radio licence fee) at the "Gebühreneinzugszentrale" (abbr.: GEZ, centre for collecting broadcast fees). BAföG recipients as well as some welfare and (class II) unemployment benefit recipients are entitled to this remission. Details are to be found at: http://www.gez.de/



### Departments & Social Welfare

### "Sozialtarif" for the Telephone

If you have your own telephone then once you have received your GEZ remission you can head straight on with it and apply for the "Sozialtarif" (social tariff) of the Telecom. Due to the battle on the telephone market this reduction has been cut quite a bit. Currently, it only amounts to getting "free units" worth 6.94 € per month that you can spend on phoning for free, yet you still have to pay the "Grundgebühr" (full basic fee). This is valid for both analogue and ISDN connections. However, the catch is that these "free units" only apply to Telecom phone calls. So, for now this is only interesting (if at all) for local phone calls. But reductions are gladly accepted, especially when so little effort is needed. It normally suffices if you present your GEZ remission at a Telecom office and fill in an application, that's all. However if you you're in a flat share and have one collective phone then this poses an exception.

### You Have a Private Health Insurance Coverage? Attention!

Now then, here's a last lead. If you have private health insurance coverage, for instance due to your parents, then before you enrol at the university you should consider whether you really want to stay thus. Such a commitment and the consequent exemption from the "Krankenversicherungspflicht" (compulsory health coverage) for your entire study period has got decisive drawbacks. For instance, it is not possible to change from a private health insurance to a compulsory health insurance fund during your studies. This will become very expensive, for example when (for reasons of age) you will no longer be insured by means of your parents and thus, will have to pay your contribution yourself.

### Off You Go!

Whoever wants or has to job besides studying should inform him/herself about such things as the "Sozialversicherungspflicht" (obligation to contribute to the social insurance) or the maximum income limit for the sake of preserving the child benefits (q.v. AStA's social information leaflet). We wish you success in the contract jungle and don't panic - there are many people and offices that will gladly help you along.

### Fachschaft of Informatics



## The Fachschaft of Informatics...

#### What is the Fachschaft?

"Fachschaft" (abbr.: FS) is the C German word for a student council, a political concept that has several meanings. One is that the student council represents the entire student body of the respective faculty. So you're also a part of our student council of informatics - the "Fachschaft Informatik"! You elect every year in the summer term the representatives of your student council (ger.: "Fachschaftsvertretung", abbr.: FSV). If transferred to the world of "big" politics the FSV can be viewed as the equivalent to the German "Landesparlament".

## The Representatives of the Student Council - FSV

The members of the FSV are the officially elected students in the Fachschaft. They are to be found in room N1002b (on the 10th floor of

the new building). This room itself is often referred to as the "Fachschaft". The FSV elect the "Fachschaftsrat" (abbr.: FSR) during their constitutive meeting, this means that the parliament chooses the government so to say.

At present the representatives of the student council of informatics are:

- Max Hürter (chairman)
- Dessislava Koleva (deputy chairman)
- Astrid Brezina
- Jörg Falkenberg
- Stephan Michael Rolf Kiesewetter
- Lucas Ligocki
- Sebastian Muszynski
- Claudia Oliveira Coelho
- Cornelius Schaller
- Bernd Schönbach
- Alexander vom Berg

### The Fachschaftsrat

- Bernd Schönbach (chairman)
- Lucas Ligocki (deputy chairman)
- Stephan Kiesewetter (financial officer)
- Jörg Falkenberg
- Max Hürter

- David Möller
- Cornelius Schaller

The members of the Fachschaftsrat (abbr.: FSR) effectively make the official decisions of the Fachschaft. We meet every Thursday at 6 p.m. (c.t.) in our Fachschaft room (N1002b). The sessions are nice and friendly and above all - public - so you're welcome to join in!

### What Does the Fachschaft Do?

The political representation is our major task. We represent the students toward the professors, the university and the "big" politics. Your representatives in the vari-

ous committees are (the deputies are in brackets):

Prüfungsausschuss (Examination Board):

- Bernd Schönbach (Diplom)
- Stephan Kiesewetter (Bachelor)
- (Jörg Falkenberg)

Institutsvorstand

(Institute Executive Committee):

- Astrid Brezina, Lucas Ligocki, David Möller
- (Jörg Falkenberg, Max Hürter, Stephan Kiesewetter)

DV-Kommission (DV Committee):

Jörg Falkenberg, Bernd Schönbach

#### Fachgruppe (Committee for the Subject):

Jörg Falkenberg, Kai Gödde, Max Hürter, Stephan Kiesewetter, David Möller,

Berg

Sebastian Muszynski, Alexander vom

- LuSt-Kommission (Education and Studies Committee):
- Desislava Koleva, Sebastian Muszynski, Cornelius Schaller, Alexander vom Berg

Studienbeitragskommission (Tuition Contribution Fee Committee):

• Astrid Brezina, Jörg Falkenberg, Max Hürter, Stephan Kiesewetter, Lucas Ligocki, David Möller

### The Services of the Fachschaft

Consulting Times During consulting times (ger.: "Anwesenheitsdienst", abbr.: AwD) you will always find someone present in the Fachschaft,

whether you have questions about your studies, problems concerning professors or if you'd simply like to drop in for a coffee break.

The regular consulting times during the semester are Monday to Friday around lunch time (the exact times are hung out on the Fachschaft's door). Whereas during semester break you can come Wednesdays 1.30 p.m. - 3 p.m. and during the enrolment period every day from 1.30 p.m. - 3 p.m. But even outside the regular times you stand a good chance to find someone present and willing to help in the Fachschaft room.

Needless to say, you are welcome to come to the AwD even before you have started your studies to simply meet some people and to pepper us with questions.

#### Exam Protocols

The absolute star is our collection of memory protocols (transcripts of exams some students took the care of writing down from their memory). You can borrow these transcripts from the Fachschaft. You will learn the few details about the modalities of borrowing in the Fachschaft. Since we only have one folder per lecture it is advisable to look into them well before the actual examinations start, especially regarding the fact that the folders become extremely popular at that period.

#### Hardware

You will find various devices in the Fachschaft that may come in handy and that you can use there locally. Among them is a comb binding machine with which you can bind up to 200 pages of lecture notes.

## ... at the University of Bonn

Also, a laminator is available if you need to laminate something. You can get the needed consumables directly from us for net cost prices.



#### Diverse Infos

You can find a lot of information on our Fachschaft homepage that you can attain by the URL: http://www.fachschaft.info/

Our web page gives access to a lecture poll (ger.: "Vorlesungsumfrage", abbr.: VLU) that we have been conducting every semester in cooperation with the professors. The VLU has been running completely online since the summer term 2000.

Offline you can find recent news, notifications and job advertisements on the pin board in front of the elevators (ground floor) and in front of the Fachschaft.

About once every two semesters we release a new and up-to-date version of our free Fachschaft newspaper called the "Inform". In the Inform we report about the current on goings of the Fachschaft's work, the informatics department, the studies und the university politics.

#### Freshmen Work

This freshman Inform that you are holding in your hands is part of our work for first-year students. Freshmen work also includes a three day trip called orientation session (ger.: "Orientierungseinheit", abbr.: OE) in October and a weekend ride with new students to the Eifel region. And of course a great deal of consultation for new students during the AwD.

#### Party on, Wayne!

PSI is a party put together by the Fachschafts of psychology (high percentage of women!), sports and informatics (high percentage of men!). Each year. In the refectory. For everyone. Those who are still not satisfied can come to our free lecture hall cinema. The last Fachschaft cinema with the screening of "Shrek" and "The Life of Brian" turned out to be a pretty success.

Once every semester all German-speaking student councils of informatics (ger.: "Informatikfachschaften") come together to a conference called "Konferenz der Informatikfachschaften" (abbr.: KIF). We arranged the KIF in the summer term 1999.

### O <u>Why are we doing this?</u> To have fun!

It's fun to work on a project together with other dedicated students, to organise events, write a newspaper and conduct workshops. It's fun to discuss a problem and then to finally attain a good solution. It's fun to learn more due to this work than in many a lecture.

#### To be informed!

Those who get involved with the Fachschaft automatically get to know more: About what happens behind the curtains at the university. About what sort of people the professors are beyond their lectures and seminars. About who is playing what



power game in the university and why he/she is discussing a numerus clausus for NRW. About why the teaching is organised in this particular fashion.

#### To change something!

We make changes. We take part in the decision-making concerning new examination regulations, e.g. we codetermined the new Bachelor regulations (ger.: ,,Bachelorsprüfungsordnung", abbr.: BaPO). We discuss ideas concerning the amelioration of teachings with the professors. We have our say when the examination board (ger.: "Prüfungsausschuss") decides about a complaint. We're not powerless.

#### To be able to help!

It's a good feeling to be able to help students with advice and consultation. Furthermore, we're happy when our exam transcripts help the people with their exam preparations. It's reassuring when students realise that we can help them out, for instance when someone addresses us in the cafeteria asking to help with a problem concerning a professor

#### To feel good!

The Fachschaft is a cosy place to sit on the sofa, drink a cup of tee and chat. As well as to calmly work on the computers Tequila, Sunset und Wusel with good background music or just read e-mails. Moreover, when the refectory is closed or the food there is intolerable there's the alternative to warm up some food in the microwave.

### Can I join in?

Yes, of course! We're happy to take anyone in who would like to take part in the Fachschaft activities. Just drop in someday to a Fachschaft session and have a look at what we do. Maybe you're even eager to write an article for the Inform or help organise the next Fachschaft cinema.

If you are halting because of the feeling that you lack insight about how everything works, then that's not a problem. Everything will become clear once you start working with others in the Fachschaft. We'll help you where we can and generally: nobody is ever left out in the rain. So just drop in!

You can also simply come over to the Fachschaft without having to assume a job.

#### Fachschaft Informatik





## Housing

Most people get tense when they hear the phrase ,room hunting', but - don't panic, there are loads of possibilities to find a comfortable and inexpensive room.

## You want a room in a student residence?

First, you can apply for a room in one of the 33 university residences for students (ger.: "Wohnheim") at the Studentenwerk (an organisation providing social, financial and cultural support services to students in Germany such as maintaining cafeterias, dormitories, administering student loans etc.). If you need the room starting from a winter term then you need to report to the Studentenwerk before August 20th. Whereas for the summer term you need to go there before February 20th. There you will fill in the forms (that you can receive on site) and hand them in. It is best that you read up on the respective student residence you're interested in beforehand, since the apartments (ahem ... rooms) and their furnishings vary vastly: For example there are rooms with their own "kitchens" and "bathrooms" (those are called apartments) or others in which you must share the facilities with several other students. It's important that women also pay attention to the location. Tannenbusch is not that recommendable, because it's reputed that more things "happen" there and the district is simply dreary.

By now nearly all student residences in Bonn are connected via glass fibre cable directly to the university network und hereby to the internet. You can find information about the student residences as well as the application forms at the Studentenwerk or at http://www.studentenwerk.unibonn.de/.

You will find a list of both the confessional student residences and those of free sponsorships in the blue university calendar (ger.: "Vorlesungsverzeichnis").

#### The Public Lottery Method

After submitting your application you will be rewarded (in written form) with a number, which is the number you got in the so called public lottery. These lotteries are frequented only by the most rigorous students because they start extremely early, take ages und give you nothing but the number you would have received anyhow.

If this number of yours is smaller or equal to 50 then you have a fairly good chance that you will get the room you were interested in before the semester begins. If it's greater than 50 then you will probably get your second, third, or

fourth choice. Otherwise, it won't be until after the beginning of the semester that you will receive a notification saying that you should report to the signature- and deposit- procedure. Those who have lottery numbers greater than 200, freshmen who want to get an apartment for the winter term (in case of doubt that's vou) and other students who for some reason didn't get a lottery number are encouraged to participate in the "Sondervergabe" (extra distribution of rooms) at the Mensa Nassestraße. For those who don't have a lottery number this "Sondervergabe" poses the only possibility to get a student residence room. Although this sounds demotivating it's nevertheless worthwhile because the probability that you will get a room gets better the more the semester comes towards an end.

## The "Sondervergabe" is Your Chance

Since, as mentioned above, the regular time for applications will have already ceased (it's until 20.08.2007 for the WiSe) when you'll be reading this, the monthly "Sondervergabe" is now your opportunity. They take place around

> the 20th of every month at the Studentenwerk. Many students arrive there starting from 9 a.m., and then little by little they hand in their lottery number notifications. Then comes the time where you prove your inexhaustible patience. Starting with the smallest number that was handed in, the applicants are then called forth (this procedure starts at ca. 11 a.m.). In the second

month of the semester the starting numbers are usually greater than 200. If you're a small number (or if you have one), then you mostly get a generous choice between several floors in you favourite housing. Otherwise you'll be lucky if you get any room at all or you'll have to be satisfied with your second, third, etc. choice. Alternatively, you can decline the offer and try again next month. Mostly only the Tannenbusch & Co. rooms are left. The left over rooms are then distributed between the people without a number. If you're not lucky then follow the imperative: Try again next month!

If you accept, then you pay a deposit that amounts to two monthly rents (circa  $300 \oplus$ ) at the cash desk one floor above. Additionally, it is recommended to pay the rent for the first month directly. But you can just as well wait till the day you move in if you want. You should save both of your receipts and show them together with a passport photograph the day you move in. The passport photograph is collected and the deposit money is kept until you move out; the latter is for the sake of being able to financially compensate any eventual damage you make. If you arrive without any receipts then you are not permitted to move into the room! At least until the first rent is paid and the receipts are shown.

The "Sondervergabe" is unsuitable for foreigners. They can only be notified in written form. This is meant to preserve the contingent of foreign students.

### The Open Residential Market

According to experience the situation on the residential market becomes extremely difficult shortly before the beginning of the semester. For this reason you should start your apartment search as soon as possible.

If you start paying the rent one month earlier then that's peanuts compared to the expensive prices you will eventually have to pay for a room some time later, when it will be too late. Yet when the time approaches towards the beginning of lectures you will find that it is more profitable to take a small or an expensive room for a while than to be forced to spend the night under a bridge. Normally, you should be able to find an adequate housing opportunity at the latest after Christmas (or you need to buy a warmer sleeping bag).

For everyone who would like to test their luck on the open residential market we have assembled a list of contact points: the glass case with flat offers in the AStA corridor, Mondays, Tuesdays and Wednesdays the advertisements in the "Generalanzeiger", the "Bonner Anzeigenblatt" (Wednesdays and Saturdays), the "Schnüss" with the flat share offers and of course, the countless notice boards in the refectories, cafeterias, institutes and in the "blue grotto" of the main university building.

The Studentenwerk also provides a free room agency. You can either call them (q.v. the address chapter) or you can browse through the folders that are displayed at their office and search for an appropriate room or apartment. Foreign students that are planning to stay for a long time in Germany for the sake of studying should address the "Akademisches Auslandsamt".

Fachschaft of Informatics



## The Student Ticket

The notion to use the student ID as a ticket for transportation derives originally from Darmstadt where they have been using this system since 1991. After a plenary meeting and a ballot vote of all students in January 1993 the student parliament enacted the introduction of the "Studiticket" in Bonn. Therefore the social service contribution has been increased to 91,00  $\in$  for everyone. In exchange, we can use our student ID as a ticket in the Rhein-Sieg public transport network (ger.: "Verkehrsverbund Rhein-Sieg", abbr.: VRS) since April 1st 1993. By now many different universities in Germany have similar agreements.

The student ticket is a contested topic between the different political college groups in Bonn: At first no one could agree upon whose brilliant idea it was in the first place and later some students started blatantly declaring that they should sue against the imposition. Indeed, two lawsuits were conducted in Bonn against the "imposing character" of the student ticket, yet all other similar cases at other universities have been unsuccessful. In cases of social hardship there is the possibility for the 91,00 € to be reimbursed. Such applications are accepted by the student ticket committee (ger.: "Studi-Ticket Ausschuss") of the AStA (Tue 12 a.m. - 2 p.m., http://www. asta-bonn.de/ticket-erstattung.html).

The student ticket is allowed to be used in (nearly) all townships that are members of the Rhein-Sieg public transportation network (VRS). Apart from the cities Cologne, Bonn and Leverkusen the following Rhein-Sieg districts are also concerned: the Rhein-Erft district, the Euskirchen district and the Rheinisch-Bergisch district. Furthermore, you can also use the train connections (not buses!) to Gerolstein, Neuwied, Dormagen, Solingen, Altenkirchen and Düren. Details are available on the VRS web page: www.vrsinfo.de. Students who have a primary residence in particular bordering areas (these include some parts of the VRS and of the Ahrweiler district) can also use the direct connections between their residence and the VRS for free.

The student ticket permits you to use buses, trams and the underground, several types of trains, specifically - the "Regionalbahn" (abbr.: RB), "Regionalexpress" (abbr.: RE) and the "Stadtexpress". Thereby you are allowed to take an arbitrary number of children that are up to 5 years old as well as a bicycle with you. Further, you may take along another person who's over 14 years old and up to three children (6 to 14 years old) every day between 7 p.m. and 3 a.m. as well as during the entire weekends and on legal holidays. You are not permitted to use ICs and ICEs with your student ticket! Likewise you are not allowed to travel first class with it. More information is available in AStA leaflets that lie around at diverse information desks. You may also get this information online at:

#### http://www.asta-bonn. de/publikationen.html

The Institute of Informatics is located at Römerstr. 164, the nearest bus stop is called "Pädagogische Fakultät" and is reachable with the bus lines given below. Yet it should be mentioned that the buses coming from the city centre are often a bit late, whereas the buses going in the opposite direction sometimes tend to arrive a little early! So it's better to leave the university a bit earlier.

You can reach the math institutes from the central station by foot (it takes five to ten minutes by foot). Car drivers should consider that finding a parking space around the Institute of Mathematics is very difficult and consumes a lot of time. At least there's a free underground car park at the PF ("Pädagogische Fakultät") that you can use.

If you need to oscillate between courses at the math and informatics institutes then it is best to go by bike: it's the cheapest and fastest mean of transportation for such routes and you don't have any problems with parking. Secondly, it's very pleasant to move around a bit after sitting several hours.

There's a train service between Cologne and Bonn via "Regionalbahn" three times an hour and there are also two trams (lines 16 and 18). Further information is to be gained from the public services of the town Bonn (ger.: "Stadtwerke Bonn") in the catacombs of the central station. There you can buy a CD-ROM with all of the VRS schedules for 1,50  $\in$ . The schedules are renewed in the beginning of May and October every year.

You can access the schedules online under the following addresses:

http://www.vrsinfo.de/

- http://www.bahn.de/
- http://www.swb.bonn.de/

Fachschaft Informatik





## PCB

PCB stands for a class of organic compounds called polychlorinated biphenyls. These substances are toxic and are suspected of being carcinogenic. They were formerly used in expansion joints that connected different parts of buildings. This stuff has the unfortunate quality to evaporate and therefore spreads in the air. The use of PCB has been forbidden since 1989. Sadly, the AVZ III building in the Römerstraße where you want to study informatics also contains PCB (although only in the so called "new building"). Therefore long attendance to that part of the building might pose a risk to your health. To reduce the PCB percentage in the air several so called "air washers" have been procured.

#### Critical Values

Values under 300 ng/m<sup>3</sup> are not viewed as harmful even for long term exposure. For values in the interval between 300 ng/m<sup>3</sup> and 3000 ng/m<sup>3</sup> something should be done to decrease the PCB concentration in the air to max. 300 ng/m<sup>3</sup> in the near future (either permanently or at least for a long time). Starting from 3000 ng/m<sup>3</sup> upward intervention must be very rapidly asserted to decrease the concentration to under 300 ng/m<sup>3</sup>.

Since the evaporation of the PCB from inbetween the expansion joints also depends on the temperature, you can be sure that during hot summer days the amount of PCB in the rooms of the new building will exceed 3000 ng/m<sup>3</sup>. You can remedy this case by ventilating the rooms a lot. This also decreases the temperature... The PCB values are clearly lower in the winter, because the temperature of the building is lower. Nevertheless the strain is great enough both in the summer and winter for one's health. Therefore, pregnant and breastfeeding mothers are not permitted to stay in the new building and should avoid it altogether!

### Protection

Regular ventilation reduces the concentration of PCB in the air. You should pay attention to whether the rooms where you have your seminars and tutorials are well aired or not (if not, then open the windows!). This is especially important on warm days, as the PCB evaporates at a much higher rate. Furthermore, the administration has installed air washers that "wash" out the PCB out of the air. The building will be abandoned at the end of 2009 - yet it is not clear where the informatics department will move to.

### **Further Information**

You can acquire more detailed information concerning the topic of PCB from the Fachschaft or from the PCB-calculator of the University of Tübingen that you can reach via:

www.tat.physik.uni-tuebingen.de/~pcbinfo/pcb-rechner.html

Note that this calculator only accounts for the PCB composition that was measured in Tübingen. Whether or not their calculated values also apply to our new building is not known. But since further information is linked on their web page it is nevertheless worth some attention.

#### mk, aw



## **Cinema and Culture**

There are many cultural events and places in Bonn that are quite worthwhile. You can get up-to-date information for free at the tourist information centre "Bonn Info" in the city centre (Windeckstraße 1, directly at the Münsterplatz). Furthermore there are always diverse booklets lying around in the cafeterias, especially at the beginning of a semester. You will find further information on the web pages stated below.

#### The City Stages

•Schauspiel Bonn, Bad Godesberg, Am Michaelshof 9, Tel. (0228) 77 80 01 http://schauspiel.bonn.de/

•Halle Beuel, Siegburger Str. 42, Tel. (0228) 77 84 07

•Opera of the city Bonn, Rheingasse http://www.theater.bonn.de/

Tickets can be ordered by phone (Tel.: (0228) 77 80 08) or can be purchased at Windeckstr. 1. Season tickets for students (ger.: "Studi-Abo") are recommendable.

#### Cabaret and Others

•Springmaus, Endenich, Frongasse http://www.springmaus-theater.de/ •Harmonie, Endenich, Frongasse

http://www.harmonie-bonn.de/ •Pantheon, im Bonn-Center, Bundeskanzlerplatz

http://www.pantheon.de/ •Anno Tubac, Kölnstr. 47 http://www.anno-tubac.de/

#### The Smaller Stages

- •Brotfabrik, Beuel, Kreuzstr. 16 http://www.brotfabrik-bonn.de/
- •Kleines Theater, Kurfürstenallee •Theater Central, Mauspfad
- *http://www.eurotheater.de/* •Theater im Ballsaal, Frongasse
- http://www.theater-im-ballsaal.de/ •tik Theater im Keller, Rochusstr. http://www.tik-bonn.de/
- •Werkstattbühne, Rheingasse

#### **Cinemas**

•Brotfabrik, Beuel, Kreuzstr. 16

The best cinema program in Bonn. They screen a lot of old and cool movies, mostly in the original language with subtitles. If one attends regularly its worthwhile to get a membership for a year.

*http://www.brotfabrik-bonn.de/* •Rex, Endenich, Frongasse

Repertory cinema (ger.: "Programmkino"). Many movies are shown in their original language or with subtitles. Once a month, on a Monday at 10 p.m. they screen a movie that the audience chooses. If you get a time card (ger.: "Stempelkarte") then the eleventh movie is for free.

*http://www.rex-filmbuehne.de* •Neue Filmbühne, Friedrich-Breuer-Str. 68

Also repertory cinema, but not as small as the Brotfabrik. Here you can attend monthly sneak previews, Wednesdays at 10 p.m. (original with subtitles). Time cards are also available here. There's a discount if you show your student ID.

*http://www.rex-filmbuehne.de/* •Stern-Lichtspiele, Markt 8

We recommend the Thursday sneak previews that start at 9 p.m.

•WOKI, Bertha-von-Suttner-Platz

It's good if you don't have an idea of how to spend the evening. Their weekly program is mainly made out of cult films. The Woki shows both old movies for cheap prices as well as the new releases (for normal prices).

http://www.woki.de/

•Kinopolis, Bad Godesberg, Moltkestr. 7– 9

This one has several auditoriums, plenty of legroom and screens about three movies per week in the original language. We also recommend the sneak preview night. The so called cinema-days (when the prices are reduced) are Monday to Wednesday.

http://www.kinopolis.de/godesberg/ •Summer cinema organised by the University of Bonn

During the summer semester break there are several evenings that you can spend on the open air watching silent films with live musical accompaniment. This takes place in the inner courtyard of the main university building and is absolutely free of charge. Definitely to be recommended!

•Sommerkino zwischen den Museen (summer cinema between the museums).

This event also takes place during the summer semester break at the "Museumsmeile". It's open air and you'll be presented cult movies in the original language with subtitles.

Many cinemas give you the option to subscribe to an e-mail newsletter that regularly provides the current program. Alternatively you will find the movie program of all cinemas in Bonn at:

http://www.tedsoft.de/special/kino.html

#### Museums

•Haus der Geschichte der BRD, Adenauerallee 250, 53113 Bonn, (bus or subway) stop: Heussallee, Tel.: 9 16 50, Tue-Sun 9a.m. – 7 p.m., closed Mondays, free of charge. German history after 1945. http://www.hdg.de

•Kunst und Ausstellungshalle der BRD, Museumsmeile, Friedrich-Ebert-Allee 3, 53113 Bonn, (bus or subway) stop: Heussallee, Tel.: 9 17 12 00, Tue-Wed 10 a.m. – 9 p.m., Thu–Sun 10 a.m. – 7 p.m., Mon closed. Very diversified temporary exhibitions.



**Cinemas & Culture** 

http://www.kah-bonn.de

•Kunstmuseum Bonn, Museumsmeile, Friedrich-Ebert-Allee 2, 53113 Bonn, (bus or subway) stop: Heussallee, Tel.: 77 62 60, Tue-Sun 11 a.m. - 6 p.m., Wed 11 a.m. – 9 p.m., Mon closed.

http://www.bonn.de/kunstmuseum/

•Deutsches Museum Bonn, Ahrstr. 45, 53175 Bonn, (bus) stop: Hochkreuz/Deut-sches Museum, bus line: 610, 616 Kennedy-allee, Tel.: 30 22 55, Tue-Sun 10 a.m. – 6 p.m., Mon closed.

http://www.deutsches-museum-bonn.de/ •Museum Alexander Koenig, Adenauerallee 160, 53113 Bonn, (bus or subway) stop: Museum Koenig, Tel.: 9 12 20, Tue-Fri 9 a.m. – 5 p.m., Sat 9 a.m. – 12.30 a.m., Sun 9.30 a.m. – 5 p.m., Mon and holidays closed.

http://www.museumkoenig.uni-bonn.de/ •Beethoven-Haus, Bonngasse, 53111 Bonn, (bus or subway) stop: Bertha-von-Suttner-Platz, Tel.: 98 17 50, Mon–Sat 10 a.m. – 5 p.m., Sun 11 a.m. –4 p.m. (from April to September Mon–Sat 10 a.m. – 6 p.m.).

http://www.beethoven-haus-bonn.de •Akademisches Kunstmuseum, Am Hofgarten 21, 53113 Bonn, (bus or subway) stop: Uni/Markt, Tel.: 73 77 38 / 73 50 11, Sun-Fri 10 a.m. – 1 p.m., Thu 4 p.m. - 6 p.m. Ancient sculptures (originals and casts).

http://www.antikensammlung.uni-bonn.de/ •Kunsthalle Bonn, Kaiser-Karl-Ring

•Frauenmuseum, Im Krausfeld

*http://www.frauenmuseum.de/* •Macke-Haus, Bornheimer Straße 96

http://www.august-macke-haus.de/ •Stadtmuseum Bonn, (bus or subway) stop: Uni/Markt. Bonner Stadtgeschichte.

http://www.bonn.de/stadtmuseum/ •Heimatmuseum Beuel, Steinerstr. 36, Bonn-Beuel, bus line: 622 Johannesstr., Tel.: 46 30 74, Wed, Sat, Sun 3 p.m. - 6 p.m.

History of the Beuel district on the right side of the Rhine.

http://www.hgv-beuel.de/ •Paläontologisches Museum, im Geologischen Institut, Nussallee. Old bones and so on.

•Mineralogisch-Petrologisches Museum im Poppelsdorfer Schloss, bus line: Beringstr., Tel.: 73 90 47, Wed 3 p.m. - 5 p.m., Sun 10 a.m. - 5 p.m., closed on holidays, free of charge. Minerals stones, ores, gems.

•Adenauerhaus, Adenauerstr. 8c, 53604 Bad Honnef-Rhöndorf,

(bus or subway) stop: Rhöndorf, Tel.: 0 22 24 / 92 10, Tue-Sun 10 a.m. – 4.30 p.m., Mon closed, free of charge.

Fachschaft Informatik



## **The Tuition Contribution Fees**

Tuition contribution fees? What's that meant to be? - Most of you are probably acquainted with the term tuition fees (ger.: "Studiengebühren"). But since this sounds rather negative the tuition fees are hence forth named tuition contribution fees (ger.: "Studienbeiträge"). This sounds much nicer. We students are finally allowed to contribute to our academic studies. And not just allowed, but compelled to do so. This law has been passed by the legislator.

Since March 2006 the Universities of NRW (North-Rhine-Westphalia) are allowed to exact tuition contribution fees from students. The maximum fee a university is permitted to demand for a semester is currently  $500 \in$ . In July 2006 the University of Bonn decided to impose the full tuition contribution fee of  $500 \in$ . Alas, you will find yourself in good company: Other universities will soon comply, if they have not already done so.

But what does this mean exactly for the students? It means that starting from the winter term 2006/2007 all freshman students of the University of Bonn are committed to pay the tuition contribution fee. Furthermore since the summer term 2007 all students have to pay the tuition contribution fee. The so called long-term tuition fees that existed until then have been repealed.

But wait, not so fast! Must we really pay? There are exceptions. In the following cases one does not have to pay the tuition contribution fee.

Someone who:

•is bringing up an underage child. In this case one can be disburdened for at most six semesters. However this applies to only one parent. If both parents are studying then one of them must pay each semester. •is handicapped in a way that prolongs his/her studies. One must apply for this exemption from tuition contribution fees. An application can be extended to maximum four semesters. You can gain detailed information from the Fachschaft, the registrar's office (ger.: "Studierendensekretariat") or the Student Advisory Service (ger.: "Studienberatung").

•is critically ill. The same rules as for disablement apply here.

•would be extremely hurt by the tuition contribution fee. In this case an application can be filed for an exemption for two semesters. The legislator denotes this as "undue hardship". To get this exemption you have to (very) accurately document what your hardship is. As long as the student is entitled to a loan for his/her studies an undue hardship does not apply. This case is primarily intended for students who are coming towards an end in their studies, yet are not further entitled to a loan.

•is a foreign student who is not entitled to a loan, yet whom the University of Bonn deems to be of "special interest to the educational cooperation with the native country". In singular cases such student can receive an exemption from the tuition contribution fees.

None of these cases apply to you? Then sadly you must pay the tuition contribution fees. By the way, the recipience of BAföG money does not free you from the obligation of paying tuition contribution fees. The government gives you money, because it acknowledges that you do not have enough to study, but this does not signify that you don't have to pay the 500 € per semester. In the end - there are still tuition contribution fee loans. This loan is a credit that enables you to finance the tuition contribution fees. And the word loan sounds so much better, doesn't it? The prevailing conditions for receiving a loan are the following:

•You are enrolled at a university.

•The university demands tuition contribution fees.

If these basic prerequisites are fulfilled

then there are several further requirements towards your person.

Either you:

•have the German citizenship, or

•are a member of the EU and have a residence in Germany, or

•have a parent or a spouse who has the German citizenship, or

•are entitled to asylum, are an accommodated fugitive, are without citizenship, or •lived in Germany for the last 5 years.

So, one of these cases apply to you and you want to get a loan? Then you must bring an NRW.Bank loan application to your enrolment. It is only possible to apply for such a loan during the enrolment or during the confirmation procedure each semester. The loan is accorded for the regular period of study and 4 additional semesters. This means that at most 10 semesters will be supported for the Bachelor in informatics. In the subsequent Master degree course you are allowed to exceed the regular period of study of 4 semesters by maximum 2 further semesters. The maximum amount of funding is 500 € per semester. Since it's a credit there will naturally be an accruing interest. The interest rate is not allowed to exceed 5.9 % until June 14th 2008. After that it must be renegotiated. Two years after the completion of your degree you must start repaying your credit (by instalments of course). At this point there is a special case for BAföG recipients: The total amount of funding from BAföG and from the load that is to be repaid is capped by 10.000 €. This means that even if you get more money you must only repay at most 10.000 €.

So many facts and each one with so many exceptions... Unfortunately, that's how legal regulations work. You can get more information on the subjects and consultation in the Fachschaft.

(bb)



## The Tuition Contribution Fee Committee

Only few concepts managed to heat up that many students' heads like the tuition contribution fees did in the previous year. In this article we would like to put the previous criticism and discontent aside and show you what actually happens with the tuition contribution fees you pay and explain why not everything concerning them is as awful as it seems. Did you know that we have a say in the distribution of the money? So you can influence the distribution of the tuition contribution fees by actively participating in the Fachschaft or by taking advantage of your active voting rights.

Tuition contribution fees amounting to 500 € per semester have been demanded from freshmen since the winter term 2006/07 and from the rest of the students at the University of Bonn since the summer term 2007. So you are now part of the third paying generation and the usage of the money is gradually becoming more settled. A high percentage of the contribution fees is assigned to the institute at which you are enrolled - in this case it's the Institute of Informatics. Yet it is not solely the university that divides and assigns the money but also we, the students, decide together with the professors, the scientific and non-scientific assistants what happens with the fees. This committee is called "Studienbeitragskommision" (abbr.: SBK) and it consists of the following members: • Lecturers (3)

- Scientific assistants (1)
- Non-scientific assistants (1)
- Students (7)

You can look up the student representatives on page 10. During the SBK sessions decisions are made whether or not and for what purposes parts of the money will be used. Naturally, this does not happen arbitrarily, but is rather strictly bound to regulations. These regulations demand that the money must only be employed for the purpose of improving the teaching. If for example the university would want to finance some new research projects with this money then this would not be possible and our SBK members would pay heed for this regulation to be adhered to.

Throughout the last year we provided part of the money for the employment of additional student assistants (ger.: "studentische Hilfskraft", abbr.: SHK), the improvement of the library equipment and the initiation of so called "Ferientutorien" (extra classes during the holidays for those who have to repeat an exam). The participation is completely voluntary and the courses are to be considered as some extra help for your exam preparations. Furthermore, it is planned to finance some lockers from the winter term 2006/07 resources that could be used by all students.

We are always open for new, constructive ideas for the use of tuition contribution fees. So if you have a wish and the opinion that many students at our faculty would need it then just send an e-mail to: fs@fachschaft.info

Our representatives at the SBK will investigate your idea and if it is appropriate will apply for a financing of the project. So you always have the possibility of actively influencing the usage of tuition contribution fees. We hope to have attenuated the negative connotation of the tuition contribution fees and are looking forward to your ideas.

(tt)

## An in depth analysis of the Bonn Altstadt

In a selfless effort to provide you with only the very latest and most accurate information about the pubs in the Altstadt (old city) district of Bonn, some of our finest writers, Hendrik Sakowsky (FH Aachen), Moritz Dästner (U of Bonn) and of course myself decided to do some intense investigation. The most unfortunate side-effects were not limited to our livers, but extended to at least some of those waiter's moods, who had to suffer from our insistent questioning.

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We started out by arming ourselves with a sheet of "buy two, get one free" coupons we had stumbled across in the university. Our first target was the "Bornheimer Wache" in Heerstraße, where we hoped to get a good deal by combining them with one of their daily specials. However, we were told that the coupons were valid for "regular" drinks only, so no punk + cheap booze today. Another thing we learned there was that the certificates you get when visiting the WOKI cinema are only valid for two weeks, so you should hurry if you plan to use them.

The author decided to make the sacrifice to buy a bottle of Kölsch beer (Reissdorf Kölsch, 0.5 liters) for a mere 2.90€. It should be added that on that very day Germany beat England in a soccer match and that the barkeeper gave away free shots whenever the German team scored. So if you like either of those, consider the Bornheimer Wache your place to go.

After roughly one hour we decided to check out Café Duck just across the street. Café Duck and Bornheimer Wache, one might note, are both accused of being sources of rioting and people disturbing the peace of the night. A citizens' group was formed and for a while it met regularly to discuss ways to get them closed down (rumors have it that an elderly woman once complained about "the loud negro music coming from Café Duck" in one of their meetings). Anyway, closing at about the time most people have to get up, they are both a refuge for people who like a place to stop over after partying all night.

Café Duck could be described as a more simple place – mainly to avoid saying it is quite run-down. It is quite small and if you are picky about the restrooms you might want to go somewhere else. On the other hand, beer and most of the other drinks are unbeatably cheap ( $2 \in$  for a 0.5 bottle of Früh Kölsch) and the staff is very nice.

After staying there for another hour, we decided to check out the next place on our list. Waving the coupons we brought from the university, we entered the Nyx in Vorgebirgsstraße and were intensively ignored by the wait-staff for quite a long while. When one of the waiters finally decided to move, she quite snottily explained that they were not obliged to accept our



### The Master Program

### Inform #92

coupons anymore. So we got the cheapest item on the list (0.31 of Sion Kölsch for  $2 \in$ ) and escaped the wood panels and bad music as soon as we could.

The next stop was E.F., which after changing ownership and name and also undergoing a facelift is now mainly a place for Emo kids. The area in the back of the pub is quite nicely arranged, although lights and counter somehow resembled more of a brothel than a club. Later we learned this was due to E.F. introducing a concept of changing music, light and even rearranging the furniture almost daily.

To our surprise, even though it was after midnight on a weeknight the place was still crowded. Their menu with 0.331 of Astra beer for 2€s and some quite extraordinary foods (I recommend the "Snakebite") seemed to invite us to do some chilling. The staff at E.F. did not accept our coupons either, by the way, but at least gave us their reasons in a very friendly manner.

Last, but not least we went to Tresor, a Heavy Metal pub in the Altstadt. Since

they close at one o'clock and we arrived at a quarter to one, they would not even accept our song requests, so we had to drown our sorrows with a Kölsch for  $2.10 \in$  (a little expensive for 0.21, one might add). Finally, we had to accept that the sidewalks are rolled up pretty early in Bonn and went to the gas station at Stiftsgarage. The declining Western civilization blinked at us in the shape of a regular customer trying to engage us in a discussion on how to open a bottle of red wine.

All I can remember from what happened after that is best summed up with: Red wine, Rhine, bright light in the morning, hangover.

Sadly, we had to leave out some places you should visit, but there will be a pub tour in the OE (freshman tour) which will cover those...

Die Wache (punk and rock music) Heerstraße 145 53111 Bonn http://www.die-wache.com Café Duck (raggae, dub) Heerstraße 132 53111 Bonn Tel.: 0228 / 97 68 727

Das Nyx (rock music) Vorgebirgsstraße 19 53111 Bonn http://www.das-nyx.de

Rockofen (various styles) Maxstr. 2 53111 Bonn

Tresor (Heavy Metal) Wolfstraße 11 53111 Bonn http://www.tresor-bonn.de

(mh)

## The course of the master program

For your studies during the master program of computer science here at university of Bonn you will have a great degree of freedom and choice. The most important choice will be that of a focus at one of the four areas. Don't worry I will get into more details about that in few moments.

Ok, let's first see which areas you can choose from. First we have the field of "Algorithmics" with such interesting lectures as "Pearls of Algorithms", "Approximation Algorithms for NP-Hard Problems" or even "Chip Design". As you can see even within this field you have a wide choice again. The next field covers the three points "Graphics, Vision, and Audio", so again a multitude of interessting topics crammed into one field.

Examples for lectures would "Computer be Vision". "Computer Animation" or "Selected Topics in Signal Processing". The third field will be "Information and Communication Management", which covers any communication either between computers or between computers and users. So for this field we have things like "High Performance Networking", "Intelligent Information Systems" or even "Apect-oriented Software Development". As last but not least then we have "Intelligent Systems" with such lectures as "Theory of Sensorimotor Systems", "Artificial Life" or "Advanced Topics in Artificial Intelligence".

So you see, you have a lot to pick from when it comes to the four fields of interest and also within each of these fields. You will probably have a hard time choosing one of those fields, unless you already are well established within one of these. However

Tip of the Day			
ſ	Did you k	now	
DON	T PANIC!		
✓ <u>S</u> how	v tips at startup	<u>N</u> ext Tip	Close

for the first semester things will be fairly easy, since you don't have to choose just yet. For the first semester you just have to pick one basic lecture for each of these fields. So that would be either be "Pearls of Algorithms" or "Combinatorial Optimization" to cover Algorithmics, for "Graphics, Vision, and Audio" you have no choice and there is only "Foundations of Graphics, Vision, and Audio" as a

> completely basic course. In "Information and Commu-Management" nication vou can then pick between "High Performance Networking" or "Information Systems Engeneering". Then at last again you have the choice between "Theory and Sensorimotor Systems" and "Intelligent Learning and Analysis Systems". Of course you can also pick any other lecture from each field that has no prerequisites. The ones Ι mentioned above are just those that are recomfor mended first semester students. As you can see the great degree of free-

dom starts even here, but you are even free to take the easy route if you like to.For the next semesters then you will mainly cover your chosen field of interesst. Which means you will have to do at least two more lectures in that field, but now you can even go on to more advanced topics. As well as these two lectures you will have to do one seminar where you give a talk and one practical lab course where you have to do a project. Each of these again will be from your chosen field of interest. So you don't narrow your focus down to much you also have to fit two more lectures into your curriculum, which may not be from the chosen focus, but have to cover some other area of your liking. They don't even have to be from the same field if you want have such a broad perspective. Then finally you have two more courses that are completely free. One is a lecture you are free to choose as you wish from your field as well as any other field. And one seminar or small lecture also from any field of your choice. In the fourth semester you will be busy working on your master thesis, which will also be from your focus area.

Oh, this reminds me of a small point I left out, to make it much easier. The distinction between "small" and "big" lectures. Most lectures you will have here at the masters program will be big lecture, meaning a lecture which takes place 4 hours each week. Small lectures would be such lectures that only have 2 hours each week. In the "Rahmenstudienplan" which regulates your master program this is covered through the use of so called ,,Leistungspunkte" (abbreviated as LP) or points of workload in english. The LP are a measurment for how much work or time you will have to invest for a course. A big lecture (as said above 4 hours each week) gives you 8 LP and a small one (2 hours each week) 4 LP. A seminar always gives 4 LP and a practical lab always 10 LP.

Now lets rephrase all the concrete matter I have given above in a more abstract way using the concept of LP. So, this means during the first semester you should get 8 LP for lectures from each of the four fields. Then during the next two semesters it will be 16 LP for lectures from the chosen field of interest and 16 LP for lectures from any other field. 4 LP for a seminar and 10 LP for a lab from your focus. Then finally the last 8 LP for a lecture of your liking and 4 LP which you can distribute among seminars or lectures any way you wish. In the fourth semester than we have the master thesis again, which is alwas worth 30 LP.

You see this gives even more freedom than I suggested above, but makes matter a bit more abstract. If you are not sure wether your concrete realization of this abstract matter fits just come by and we will sure help you.

Till Crueger



### The Master Program





## Area of Algorithmics Interview with Professor Norbert Blum



## Which area(s) of computer science do you cover in your research?

The design and analysis of algorithms, complexity theory

# Which topics do you cover in the modules you will offer to Master students?

Approximation Algorithms, Algorithmic Game Theory, Selected Topics in Algorithms, Information and Learning Theory Which was the first programing language for you to learn? Which programing language do you like best?

Algol 60, no specific programming language

Will students attending your modules need the knowledge of any specific programing language?

## Which branches of mathematics will students need for your modules?

Fundamentals in Analysis and Linear Algebra

## Please tell us a little about your work history?

Study at the University of Saarlands in Saarbrücken, 1978 diploma, 1981 doctorate, 1988 habilitation since 1988 professor in Bonn.

## Who are your partners from industry or research-institutes?

Normally, I work alone.

#### Could you name some topics for diploma-thesises you have given out. What would you imagine as possible topics for a master-thesis?

The analysis of genetic sequences, Some topics in algorithmic game theory, Data structures

## What prospects do students have to work in your group?

good prospects

Which operating system do you use?

Unix

## Which computer scientist do you respect most?

A very difficult question. Leslie Valiant is under the computer scientists which I respect most.

#### How did you experience the work of the Fachschaft during your time of studies?

I have known some members of the Fachschaft very good. The work of the Fachschaft was much more political than nowadays.

# And now for something completly different: What can you tell us about the number 42?

This is an integer.







## Area of Algorithmics Interview with Professor Rolf Klein



## Which area(s) of computer science do you cover in your research?

Algorithms and data structures, computational geometry in particular.

# Which topics do you cover in the modules you will offer to Master students?

There is a module "Pearls of Algorithms" my colleagues and I will jointly teach. Computational geometry is another topic, from advanced to research level.

#### Which was the first programing language for you to learn? Which programing language do you like best?

My first programming language was Pascal, and I still like it best.

Will students attending your modules need the knowledge of any specific programing language? Will there be possibilities to learn those language during the course of the module?

In theory this is not a problem. But those who like are welcome to write Java applets, as part of their master theses.

### Which branches of mathematics will students need for your modules?

The topics not covered by math at bachelor level will be introduced in the modules. A well-trained proof muscle is helpful.

## Please tell us a little about your work history?

1979 Diploma in Mathematics and Mathematical Logic, University of Münster. 1982 Doctorate in Mathematics, University of Erlangen. Research Assistent in Computer Science, Universities of Karlsruhe and Freiburg. Assistent professor at University of Waterloo, Canada. 1989 Habilitation in Computer Science, University of Freiburg. Professor of Computer Science in Essen and Hagen and, since 2000, with the University of Bonn.

#### Who are your partners from industry or research-institutes?

I've done joint research with colleagues at UPC Barcelona, FU Berlin, TU Braunschweig, Carleton University (Ottawa), Duke University (Durham), Florida International (Miami), Fudan University (Shanghai), TU Graz, HKUST (Hong Kong), Lund University, UP Madrid, NICTA (Sydney), Saarland University (Saarbrücken), Tel Aviv University, Utrecht University, University of Waterloo, University of Wisconsin (Milwaukee).



Could you name some topics for diploma-thesises you have given out. What would you imagine as possible topics for a master-thesis?

- Kompetitive Routenplanung bei ausfallenden Kanten http://web.informatik.uni-bonn.de/I/ publications/JacobiWedemeier.pdf,
- Optimale Platzierung eines Highways

http://www.geometrylab.de/Highway/, - Entkommen aus unbekannten Umgebungen mit einem Kleinroboter

http://web.informatik.uni-bonn. de/I/publications/b-eaulm-06.pdf There are many interesting topics motivated by space/time dependent motion problems, like computing fastest collision free paths amidst moving obstacles, extinguishing forest fires, or organizing meetings for far away participants. Interesting students are welcome to check our homepage at

http://web.informatik.unibonn.de/I/agklein.html.en or visit our group.

## What prospects do students have to work in your group?

We are regularly hiring students (as Studentische Hilfskraft) to help us with research and teaching. There are 4-5 positions of research assistents for Ph.D. students or post docs;contracts are typically for 1+4 years. Students interested in our research are welcome to join us for our tea meeting every other tuesday at 1:00 pm.

### Which operating system do you use?

I'm just changing from Windows XP to MacOS X 10.5

## Which computer scientist do you respect most?

John von Neumann

# How did you experience the work of the Fachschaft during your time of studies?

Among the politically extreme student groups, the Fachschaft was not as visible as it is today. But all of us knew that these fellow students could be counted on.

# And now for something completly different: What can you tell us about the number 42?

It reminds me of the musical "42nd Street" which I haven't managed to see yet.



## Area of Algorithmics Interview with Professor Christian Sohler



## Which area(s) of computer science do you cover in your research?

am mainly working in theory with focus on analysis of algorithm and data structures for massive data sets. Most of the time, randomization plays a crucial role either in the analysis or the algorithm itself. Besides theory, I am also interested in database systems and related areas such as information retrieval and machine learning algorithms.

## Which topics do you cover in the modules you will offer to Master students?

This is not yet fully specified, because I only recently moved to Bonn. I can imagine to give lectures on different topics on algorithms like randomized and approximation algorithms, clustering algorithms or computational geometry. Currently, I am teaching a course on data streaming algorithms and I'd really like to see a version of this in the Master program. Another interesting option would be a course on Property Testing.

#### Which was the first programing language for you to learn? Which programing language do you like best?

As far as I remember, this was some kind of BASIC. I then quickly moved to assembler. My favourite programming language is C, because it is close enough to the system to keep control of what's going on. I also like the concept of object orientation when it comes to larger software projects. My favourite object oriented language is C++.

#### Will students attending your modules need the knowledge of any specific programing language? Will there be possibilities to learn those language during the course of the module?

No. However, I believe that a good understanding of C is very helpful in all algorithms and data structures courses. Since I am teaching theory, there will be no possibility to learn these languages and I also would expect from a Master's student that he or she knows about C, C++ or Java.

### Which branches of mathematics will students need for your modules?

Probability theory.

## Please tell us a little about your work history?

I studied Computer Science in Saarbrücken and then moved to Paderborn where I obtained my doctoral degree in 2002. In 2003 I was appointed as an assistant professor (Juniorprofessor) at the university of Paderborn. Later, in 2006 I visited Rutgers university for half a year. End of March 2008 I moved to Bonn university.

## Who are your partners from industry or research-institutes?

None. However, I know some people at different Google labs.

#### Could you name some topics for diploma-thesises you have given out. What would you imagine as possible topics for a master-thesis?

- Approximation Algorithms for k-Median and k-Means Clustering of Moving Points
- Geometric Problems in the StrSort Model
- Approximation Algorithms for Mobile Map Labelling
- Possible topics for a Master thesis:
- Data Streaming Algorithms for Decision Tree Learning
- Feature Selection Algorithms
- Property Testing for Geometric Problems

## What prospects do students have to work in your group?

I am not quite sure whether I get the question. We always have a number of interesting problems both theoretical and experimental and new students are always welcome. Which operating system do you use?

Unix, Windows XP

Unix, windows XP

## Which computer scientist do you respect most?

I cannot say that there is a single person that I respect most. There are a number of people whom I respect as a computer scientist and as a person because they are brilliant reasearch but are still easy-to-talk-to (but I won't give names here).

# How did you experience the work of the Fachschaft during your time of studies?

I didn't have many connections to the Fach-schaft.

And now for something completly different: What can you tell us about the number 42?

Nothing new.



## Area of Algorithmics Interview with Professor Jens Vygen



Which area(s) of computer science do you cover in your research?

Combinatorial optimization and chip design.

# Which topics do you cover in the modules you will offer to Master students?

There are lecture courses on combinatorial optimization, approximation algorithms, and chip design, each of which is offered every year. There are also advanced lectures, graduate seminars, and practical training courses. For details see *http://www.or.uni-bonn.de/teaching.eng.html* and the module handbook.

#### Which was the first programming language for you to learn? Which programing language do you like best?

My first programming steps at the age of 12 were on a HP41 pocket calculator, soon followed by Basic and Pascal. For many purposes C++ is an excellent programming language, but not for teaching unless you already know the basics of programming.

#### Will students attending your modules need the knowledge of any specific programing language? Will there be possibilities to learn those language during the course of the module?

On master level we expect students to know the basics of programming already. Of course it is possible to improve skills in the courses. Some of the exercises in the lecture courses require programming; typically in C or C++. The practical training courses require programming in C++.

## Which branches of mathematics will students need for your modules?

My students must have good mathematical foundations and in particular know the fundamentals of discrete algorithms. Network flows are used everywhere. basic knowledge in complexity theory, linear programming, graphs and matroids, and fundamental data structures are also very useful.

## Please tell us a little about your work history?

Apart from rather short periods I have spent most of my career at the University of Bonn (where I am a professor since 2003) and declined several other offers because of the excellent working conditions here.

### Who are your partners from industry or research-institutes?

Partners from industry are IBM and Magma Design Automation. We develop algorithms for chip design, the BonnTools, which these companies and their customers use for designing many of the most challenging chips in the world. We have also many international cooperations with partners at universities.

#### Could you name some topics for diploma-thesises you have given out? What would you imagine as possible topics for a master-thesis?

The topics of the three most recent diploma theses in computer science were repeater tree algorithms, yield optimization in routing, and algorithms for the minimum balance problem. All of these dealt with combinatorial algorithms and their application to chip design. Master's theses will

#### be similar.

## What prospects do students have to work in your group?

Approximately 20 students from mathematics and computer science work in our group with student contracts. Most of them started quite early and remain in the group at least until their final thesis. This allows learning a lot, working in a big and challenging practical project, in cooperation with industry. Usually the project leads naturally to a diploma or master's thesis. After obtaining the degree some students stay in our group for a PhD, while others go to industry. In any case I can say that our students have excellent opportunities.

## Which operating system do you use?

Almost exclusively Linux. In exceptional cases Windows.

## Which computer scientist do you respect most?

Donald Knuth. His books and the typesetting system TeX are truly amazing.

# How did you experience the work of the Fachschaft during your time of studies?

The Fachschaften have always been important institutions. In particular for topics like the new bachelor's and master's programs and the use of tuition fees it is essential that students advance their opinion and point out weaknesses.

# And now for something completly different: What can you tell us about the number 42?

My age next year. My current semester if I were still studying.



~ E~

## Area of Algorithmics Description of the working group of Prof. J. Vygen



At the Research Institute for Discrete Mathematics we have a group of approximately 8 PhD students and 20 Diploma students, all working on different aspects of combinatorial algorithms for chip design. The members of the group have different levels of programming skills and different mathematical levels, but of course excellence in both is best. Subprojects include placement, routing, timing optimization, clocktree design, as well as basic combinatorial algorithms, data structures, and computational geometry. The group is permanently developing a large set of chip design tools (the so-called BonnTools) which are continuously used in industry worldwide.





Anmeldung zur Ersti-Fahrt

Ich will vom 24.10. - 26.10.2008 mit auf die Ersti-Fahrt der Fachschaft Informatik fahren.

- □ Ja, ich habe ein Auto und kann ..... zusätzliche Personen mitnehmen!
- □ Ja, ich bin VegetarierIn und stehe auf unschuldige Pflänzchen!
- 🗷 Ja, ich bin bereit 15 Euro Unkostenbeitrag zu zahlen!
- ☑ Ja, ich habe mich bis zum 20. Oktober angemeldet!

Name:Adresse:		
Telefon:	E-Mail:	
Datum und Unterschrift:		

## Area of Graphics, Vision and Audio Interview with Professor Michael Clausen



## Which area(s) of computer science do you cover in your research?

Currently, our research is focused on Audio Signal Processing, Multimedia Information Retrieval and their applications in the context of Digital Multimedia Libraries. Among other scenarios, we utilise our strong background experience in fast Fourier transforms and algorithmic complexity theory in the development of robust and efficient music information retrieval applications. A great part of the developed applications is integrated in services available from the world wide web.

## Which topics do you cover in the modules you will offer to Master students?

In our modules, we focus on the foundations of Digital Signal Processing and Multimedia Information Retrieval as well as their stateof-the-art applications on actual information retrieval tasks. Thereby, the lectures will communicate the necessary basics which are then deployed during our practical courses and seminars.

#### Which was the first programming language for you to learn? Which programing language do you like best?

I started programming using ALGOL 68. As I am concentrating on the development of algorithms, my choice of a programming language switches regarding the actual application. Generally, I prefer to use C++ and Java.

Will students attending your modules need the knowledge of any specific programing language? Will there be possibilities to learn those language during the course of the module?

In general, no specific programming language is required in order to attend our courses. However, it is expected from students to be able to implement a proposed algorithm using a common programming language like Java or C++. Furthermore, the scripting language of MATLAB will be introduced and used during some practical exercises.

## Which branches of mathematics will students need for your modules?

For the basics of digital audio signal processing, a solid basic knowledge in Analysis and parts of Algebra will be required. Students should be familiar with the basics of Stochastics.

### Please tell us a little about your work history?

After my studies in mathematics, physics and computer science (Diploma and PhD in mathematics, Habilitation in computer science at the University of Karlsruhe), I lectured at the Universities of Aachen, Bayreuth, Zürich und Karlsruhe. Since 1989 I am researching and teaching as Professor of Computer Science at Bonn University.

## Who are your partners from industry or research-institutes?

Due to our interdisciplinary research, we have a wide network of cooperating organisations. In particular, strong collaboration is performed with the Max-Planck computer science institute Saarbrücken, the FGAN institute at Wachtberg, the Bayerische Staatsbibliothek München and the animal sound archive of the Humboldt University, Berlin.

#### Could you name some topics for diploma-thesises you have given out. What would you imagine as possible topics for a master-thesis?

The titles of thesises being recently proposed by our group include "Efficient methods for high resolution music synchronization", "SyncPlayer - a Framework for Content-Based Music Navigation" and "A Group Theoretical Approach to Content-Based Image Retrieval". Topics of envisaged Master's thesises will be discussed regarding our research groups actual focus as well as the students interests.

## What prospects do students have to work in your group?

Depending on the concurrent research activities and projects, students being known for excellent work in our practical courses, lessons or seminars may get the opportunity to join the working group e.g. for holding practical exercises or supporting the researchers.

## Which operating system do you use?

We dominantly use MS Windows.

## Which computer scientist do you respect most?

Amongst a wide spectrum of brilliant researchers, I adore Donald Knuth for his achievements both in the Art of Computer Programming and in TeX.

# How did you experience the work of the Fachschaft during your time of studies?

The work of the Fachschaft has always been very important in several aspects:

- organizing orientation units for our freshmen
- as representatives of students' interests in several committees
- organizing polls about the quality of lectures

# And now for something completly different: What can you tell us about the number 42?

- 42 = the street number of my parents' house
- -42 = 2\*3\*7 (prime factorization)
- 42 is the 5th Catalan number (very interesting numbers!)
- 42 written in binary is totally balanced: 101010
- 42 is the number of different ways to write 10 as a sum of positive integers (check this!)
- every (mathematical) group of order 42 has a Fast Fourier Transform (a corollary of a non-trivial FFT-result proved 42/2 years ago!)
- and last but not least: the ultimate number in HHGTTG



## Area of Graphics, Vision and Audio Interview with Professor Daniel Cremers



# Which area(s) of computer science do you cover in your research?

Computer Vision, Image Processing and Pattern Recognition

#### Which topics do you cover in the modules you will offer to Master students?

Motion estimation, image segmentation, tracking, 3D reconstruction

Which was the first programing language for you to learn? Which programing language do you like best?

First: Basic, Assembler,

Favorite: C++, Matlab

#### Will students attending your modules need the knowledge of any specific programing language? Will there be possibilities to learn those language during the course of the module?

Matlab is useful, but can be learned during the class.

## Which branches of mathematics will students need for your modules?

Analysis, linear algebra.

## Please tell us a little about your work history?

My background:

- BA (Vordiplom) in Math and Physics
- MA (Diplom) in Theoretical Physics
- PhD (Dr.) in Computer Science

- 2002-2004 Postdoc at the University of California at Los Angeles (UCLA)

- 2004-2005 Researcher at Siemens Corporate Research, Princeton, NJ
- 2005- Professor Bonn

#### Who are your partners from industry or research-institutes?

We collaborate with several industrial partners, among others Daimler Research (Stuttgart), Microsoft Research (Cambridge) and Siemens Corporate Research (Princeton). We collaborate with several academic research institutions in France (Paris), in the UK (London, Edinburgh), in Canada (Ontario), in the US (Michigan, Los Angeles), in the Netherlands (Eindhoven) and in Germany (Saarbrücken, Dresden).



#### Could you name some topics for diploma-thesises you have given out. What would you imagine as possible topics for a master-thesis?

Topics that we are interested in and have

given out are in the fields of Multiview Reconstruction, Image Segementation, Graph Theoretic Approaches to Image Analysis, Depth Reconstruction from Stereo Images, Image Understanding, Statistical Learning, Motion Analysis, and more.

## What prospects do students have to work in your group?

Computer Vision is a highly active research area that involves numerous fascinating challenges with the ultimate goal of providing machines with the capacity to understand images. In the last ranking of 2006, the International Journal of Computer Vision had the highest impact factor of all (365) computer science journals.

The demand for computer vision in various domains of industry is very large (driver assistance in the automobile domain, autonomous navigation and obstacle avoidance in robotics, medical image analysis, 3D reconstruction for Graphics, smart user interfaces,...)

Students can thus either enter a research career with many opportunities in a growing field of science. Or they can develop the necessary skills for a career in industrial image analysis.

## Which operating system do you use?

Linux for algorithms and software, Windows for presentations.

## Which computer scientist do you respect most?

Many talents, among others Edsger Dijkstra and Richard Karp

#### How did you experience the work of the Fachschaft during your time of studies?

#### Very good.

And now for something completly different: What can you tell us about the number 42?

Hmm, are you quoting from the bible? I recently read this other book...



## Area of Graphics, Vision and Audio Description of the working group of Prof. D. Cremers



Prof. Dr. Daniel Cremers



Heidi Georges-Hecking



Dr. Thomas Pock



Dr. Bastian Goldlücke



Maria Klodt

Kalin Kolev

Thomas Schoenemann



Frank R. Schmidt



Andreas Wedel

My research group currently consists of two postdocs, five PhD students, four student programmers and around 10 Diploma students. All are working on various aspects of Computer Vision. We use and develop various methods from Applied Mathematics (partial differential equations and numerical methods), Discrete Mathematics (combinatorial and graphtheoretic methods), from Statistics (probabilistic methods and density estimation) and from Differential Geometry (analysis of shape).





## Area of Graphics, Vision and Audio Interview with Professor Andreas Weber



## Which area(s) of computer science do you cover in your research?

My main areas of research are from the domain of Computergraphic, or more precisly Computeranimation, and in this area the "Physics based Modelling". Two projects, I am working on mainly, are the modelling of hair and hairdos in computergraphics, as well as the physical based synthesis and analysis of movements.

# Which was the first programing language for you to learn? Which programing language do you like best?

My first programming Language were Basic and PASCAL.

## Please tell us a little about your work history?

After my diploma in Mathematics (with a minor in Computer science) I was offered a position as Assistend and doctorate student at the newly founded department of computer science of the University of Tübingen in 1990. After achieving my doctorate degree in 1993 I remained in Tübingen with a position as Assistant, then I got a scholarship as Post-Doc from the DFG for the Department of Computer Science at Cornell University. Afterwards I came back for again about two years to Tübingen (here I could do my "habilitation"). From September 1999 to early of 2001 I was at "Fraunhofer-Institut für Graphische Datenverarbeitung" in Darmstadt. Since April 2001 I am Professor here in Bonn.

### Which operating system do you use?

Mostly Windows (LINUX only on some occasions).

## Which computer scientist do you respect most?

Donald Knuth, since I take him to be the most complete Computer Scientist. He did some very good woorks in theoretical fields, which still were relevant for practical research and work in Computer Science. Furthermore he realized systems, that he even implemented himself, that are still in use everywhere (mostly TeX).

## How did you experience the work of the Fachschaft during your time of studies?

The Introduction was very helpful at my first Semester.

# And now for something completly different: What can you tell us about the number 42?

The answer ist 42, but what was the Question? (For me 42 is actually the answer to quite a few Questions.)



## Area of Information and Communication Management Interview with Professor Pedro J. Marrón



## Which area(s) of computer science do you cover in your research?

We cover sensor networks, pervasive computing systems and mobile ad-hoc networks.

# Which topics do you cover in the modules you will offer to Master students?

We cover topics like data aggregation, routing in resource-constrained environments, localization, system software for small embedded devices, etc.

# Which was the first programing language for you to learn? Which programing language do you like best?

The first programming language I learnt was BASIC, then Pascal, C, C++, etc. The one I like best is C++.

#### Will students attending your modules need the knowledge of any specific programing language? Will there be possibilities to learn those language during the course of the module?

Yes, they need a basic understanding of C to be able to program in nesC (a variant of C used for sensor networks). This can be learned during the course. For the other courses, we need knowledge of Java and/or C#.

## Which branches of mathematics will students need for your modules?

Discrete mathematics.

## Please tell us a little about your work history?

I am originally from Spain, got my Bachelor and Master in Computer Engineering from the University of Michigan, Ann Arbor and then moved to Freiburg to get my Ph.D. Then, I moved to Stuttgart where I got my ,habilitation" and then moved to Bonn, as a professor. During my studies, I have worked as an intern in different companies like IBM, National Instruments, McKinsey & Co, Siemens, just to name a few.

### Who are your partners from industry or research-institutes?

I am also working for Fraunhofer IAIS, so there are many projects that involve Fraunhofer. Additionally, we are involved in four European projects, that have many different partners from all over Europe. Companies like SAP, Siemens, Schneider Electric, Boeing, SELEX, Nokia, Ericsson, etc. are very actively participating in these projects.

#### Could you name some topics for diploma-thesises you have given out. What would you imagine as possible topics for a master-thesis?

- Localization for wireless sensor networks.
- Deployment and simulation of wireless sensor networks.
- Role assignment for pervasive systems.

## What prospects do students have to work in your group?

Students in our group do research in a highly international environment. We are involved

in four European projects so that student (prospective employees) have the chance to work first hand in European and industrydriven projects.

Additionally, I am coordinating CONET, the Cooperating Objects Network of Excellence, which involves 16 partner throughout Europe and whose goal is to coordinate research in Europe in the field of sensor networks, pervasive computing, etc. One of the main parts of CONET is the mobility of students within Europe, so that it will be possible (if so desired) for people working in our group to attend international conferences or even go for several weeks or months to study/work at other institutions in Europe.

## Which operating system do you use?

I personally use Linux and VMWare to run Windows.

## Which computer scientist do you respect most?

Jim Gray, Dijkstra, Tannenbaum and, of course, Linus Torvalds.

# How did you experience the work of the Fachschaft during your time of studies?

I did not study in Germany, so I cannot comment on that. However, during my time in Bonn, I was impressed by the amount of commitment of the Fachschaft. So far, it has been a pleasure to work with all students in the Fachschaft.

# And now for something completly different: What can you tell us about the number 42?

42 is 24 reversed, which is the number of hours in a yad (reverse the word too ;))





## Area of Information and... Interview with Professor Peter Martini



Which area(s) of computer science do you cover in your research?

In research and teaching, our group with 16 scientific assistants and more than 30 students on our payroll, addresses a wide range of real world oriented hot topics in the area of communication systems: Mobile Communication and Mobile Devices, Internet Technology, Network (In)Security, Ad Hoc Networks, High Speed Networks, Grid Technology, and others.

With long-term cooperation contracts linking our group to the FGAN Institute FKIE and to the Fraunhofer Institute IAIS, we reach out to application-oriented research institutes in our region. Numerous joint research activities with these institutes and project-based cooperative research with key industry players such as T-Mobile, allow both our staff and our students, to work on next generation prototype systems. In addition, we are active in basic research efforts funded by the DFG (the German Research Foundation), by the EU and others.

# Which topics do you cover in the modules you will offer to Master students?

In our introductory course, "High Performance Networking", we start with a recap and consolidated discussion of Internet Technology. We continue with network modeling, performance measurement, performance simulation and security issues. Additionally, we address selected aspects of our research projects.

#### Which was the first programing language for you to learn? Which programing language do you like best?

My first programming language was Pas-

cal. Today, most of our research projects are based on C++, for other activities Java is the perfect choice, for some aspects we prefer functional programming languages, for others we touch machine language. So, there is no single language which I like best – my personal preference depends on the circumstances.

#### Will students attending your modules need the knowledge of any specific programing language? Will there be possibilities to learn those language during the course of the module?

We use C++ in the practical parts of our exercises. Students familiar with Java usually do not run into serious problems working their way into the style of programming specific to C++. With good Bachelor-level programming skills, nobody should have a hard time working on our practical exercises. However, students should be aware of the fact that our courses are completely wrong for those who want to avoid real-life programming. Our courses are an excellent choice for those, who are interested in really making things work – with all the picky details.

## Which branches of mathematics will students need for your modules?

Basic (Bachelor level) knowledge of probability theory and statistics is required.

## Please tell us a little about your work history?

I studied computer science at the Technical University of Aachen from 1980 to 1986, completed my Ph.D. in computer science in late 1987 and stayed as a Postdoc at the Technical University of Aachen until 1990. Then I changed to the University of Paderborn where I was a professor of practical computer science until 1996. Since 1996 I hold the chair of Computer Science IV of the University of Bonn.

### Who are your partners from industry or research-institutes?

With 3 scientific assistants funded by the state of Northrhine-Westfalia and 13 scientific assistants funded by third-party projects, it is obvious that the majority of our research activities is organized in the framework of third-party projects.

Our closest link is to FGAN-FKIE, a research institute with more than 200 employees located at Wachtberg (just outside

Bonn). This institute has a 50 year history and an excellent reputation in applied research in the field of military technology. Thus, I enjoy being the chair of the scientific advisory council of FKIE and I enjoy being a close cooperation partner in the areas of ad hoc networks, network security, sensor data fusion, distributed command and control information systems, and others.

We also have strong links to Fraunhofer-IAIS and Fraunhofer-SCAI, to BSI (Federal Office for Information Security), T-Mobile, T-Com, Nokia, sd&m, Intel, and smaller companies such as Sepago.

#### Could you name some topics for diploma-thesises you have given out. What would you imagine as possible topics for a master-thesis?

Topics are possible in a wide range of issues in the area of communication systems, mobile devices, computer and network security, simulation technology and performance engineering. Some examples of recent diploma thesis:

- Automatic Generation of complex Intrusion Detection Signatures
- Dynamic Partitioning and Cloning in parallel Simulation
- Efficient Simulation of Mobile Ad Hoc Networks
- Performance Evaluation of UML System Architectures
- Algorithms and Metrics for Dynamic Online Routing
- Vulnerability Detection in Binary Code
- Intrusion Detection for tactical Mobile Ad Hoc Networks

## What prospects do students have to work in your group?

We are always more than happy to have many students actively involved in our research activities. In addition, we are always looking for motivated tutors.

### Which operating system do you use?

On my laptop, it is Windows XP. On my PDA, it is (still) Palm OS. In our projects, we use Linux, Symbian or other operating systems.

## ... Communication Management

## Which computer scientist do you respect most?

I do not like personality cult. I respect those who respect their students and who do an excellent job without developing "prima donna habits". How did you experience the work of the Fachschaft during your time of studies?

The Fachschaft helped me a lot in finding my way through the university. Most important to me was the collection of questions usually asked in oral exams. And now for something completely different: What can you tell us about the number 42?

42 tells us the value of not to be seen. However, even though I read the first four volumes of the "Trilogy", I stand up too often in university committee meetings.

Till Crueger, Lucas Ligocki

## Description of the working groups of Prof. Martini and Prof. Marron

## We are surrounded by networks: The Internet, home networks, in-car networks, high-speed networks, sensor networks and others. These networks allow computers, human beings, mobile devices and other "things" to communicate - i.e. to exchange data - and to coordinate their activities.

The result is an exciting world of virtualization and cooperation where physical proximity becomes less and less important: All around the world, people interact and play online games with people they have never met in real life. Services like file storage, computation, banking and shopping are provided from almost anywhere. On the other hand, the network of services and opportunities comes along with a network of attackers and threats: Millions of PCs have become parts of botnets, zombie computers controlled remotely. Attackers hiding tens of thousands kilometers away, enjoy round trip times to and from their unsuspecting victims of just a few hundred milliseconds. An additional mega-trend is the proliferation of small computing devices equipped with communication capabilities; cooper-. . . . . . . . . . . . .

The "Sensor Networks and Pervasive Computing" (SNPC) group was founded in 2007 with the change in position of Pedro Marrón, the head of the group, from the University of Stuttgart to the University of Bonn. Scientists at SNPC have worked on research and development projects for government agencies, associations and industry (Siemens, etc.). Some European projects, where current members of SNPC have worked on, are the Embedded WiSeNts coordination action and the CarTALK research project. While the overall objective of CarTALK was the development of driver assistance systems using ad-hoc communication between vehicles, the members of the group contributed routing protocols for ad-hoc networks. The goal of the Embedded WiSeNts coordination action was to formulate a common vision as well as a roadmap towards wireless sensor networks and cooperating embedded systems. The current members of SNPC were responsible for the development of the

ating objects organizing themselves into networks to achieve a common task. Selforganization of wirelessly networked embedded systems (,,the invisible computers") is at the heart of this vision of pervasive and ubiquitous computing.

At the Institute of Computer Science IV, the closely cooperating groups headed by Pedro José Marrón and Peter Martini address a wide range of hot topics in the exciting realm sketched here. With long-term cooperation contracts linking our department to the undefinedFraunhofer Institute IAIS and to the undefinedFGAN Institute FKIE, we reach out to application-oriented research institutes in our region. Numerous joint research activities with these institutes and project-based cooperative research with key industry players such as undefinedSie-

roadmap itself, interaction with the industry and dissemination activities related to the project. Currently, SNPC is participating as a founding member in the AWARE project and the EMMA project (in FP6). Futhermore, in FP7, they are participating in the PECES project and Pedro Marrón is the coordinator of CONET, the Cooperating Objects Network of Excellence that just started in June 2008.

The goal of AWARE is to combine the capabilities of UAVs, robots, cameras and sensor networks to fight the spread of fire in indoor scenarios. The members of SNPC are responsible for the design and implementation of a publish/subscribe middleware that allows for seamless communication of entities in the system. The goal of the EMMA project is the development of a novel embedded communication middleware for wireless cooperating objects in automotive applications. The new project PECES, which will start in October 2008, aims at solving the

mens, undefinedNokia, undefinedT-Com and undefinedT-Mobile, allow both our staff and our students, to work on next generation prototype systems. In addition, we are active in basic research efforts funded by the German Research FoundationDFG (the German Research Foundation), by the EU and others.

Our strong engagement in teaching activities at the undefinedB-IT, the Bonn-Aachen International Center for Information Technology, reflects our understanding of globalization: Attract the best students from all over the world, teach them the basics of our research activities, allow them to join our project work for some months or some years and see them leave as friends and cooperation partners in their home countries or anywhere else in the world.

security and addressing problems found in pervasive systems, for scenarios where the information contained in the smart space is not available only using local resources. Finally, the goal of the CONET project is to provide the appropriate framework to foster research in the area of Cooperating Objects and to organize research in conjunction with the industry. The founding members of CONET include 11 universities and 5 companies accross Europe, such as SAP, Boeing, Telekom Italia, Schneider Electric and SELEX.

Apart from these European projects, the SNPC group is also working on middleware systems that enable the efficient utilization of sensor networks in Ubiquitous Computing applications with a specific focus on home and office automation. Finally, SNPC has a bilateral project with Siemens AG for the development of robust self-management concepts for the operational maintenance in wireless sensor network deployments.



## Area of Intelligent Systems Interview with Professor Joachim Anlauf



## Which area(s) of computer science do you cover in your research?

Technical computer science, i.e. the hardware behind computation. I am especially interested in FPGAs, reconfigurable hardware that can be configured by software to behave as an arbitrary piece of hardware. These chips are nowadays capable of calculating even complex algorithms in hardware. We apply FPGAs to fast calculations in financial engineering. In addition my heart belongs to neural networks.

## Which topics do you cover in the modules you will offer to Master students?

According to my research interests the topics will be "Technical Neural Networks" and "Reconfigurable Systems", especially FPGAs.

#### Which was the first programing language for you to learn? Which programing language do you like best?

ALGOL68 was my first one. I still like C++ best, although this isn't the most elegant programming language.

#### Will students attending your modules need the knowledge of any specific programing language? Will there be possibilities to learn those languages during the course of the module?

They will need VHDL and/or SystemC — a C++ class library — in order to program FPGAs. Für neural networks any programming language will do, but Matlab would be very useful. Of course they can learn those languages during the courses, especially in the labs.

## Which branches of mathematics will students need for your modules?

Statistics is very useful for neural networks and for the applications in financial engineering.

## Please tell us a little about your work history?

After I have studied physics I worked at Siemens, Munich, in the research department. We developed a neural computer for fast simulations of neural networks. Since 1995 I teach as a professor at the University of Bonn.

#### Who are your partners from industry or research-institutes?

I like to collaborate with industry most. In the past I worked with companies like Siemens, Ford, T-Mobile, Bayer. Currently I am looking for partners in the banking sector.

#### Could you name some topics for diploma-theses you have given out. What would you imagine as possible topics for a master-thesis?

For example "Structural and Functional Descriptions of Dynamically Recon-

figurable Hardware in SystemC". Or "An FPGA Implementation of a Monte Carlo Algorithm for the Pricing of Derivatives". Possible future topics always depend on the current state of the research or the current state of projects.

#### What prospects do students have to work in your group.

There are always possibilities to work as a tutor for younger students. In addition there may be payed jobs in projects in collaboration with the industry.

# Which operating system do you use?

Mainly Windows XP.

But there are some Linux based systems, too.

## Which computer scientist do you respect most?

I studied physics. I can name some physicists. :-)

# How did you experience the work of the Fachschaft during your time of studies?

I have to admit that I was not interested in the Fachschaft during my own studies. But that was a mistake. Now I know how important the Fachschaft is, in order to represent the interests of the students.

## And now for something completly different: What can you tell us about the number 42?

Binary representation 101010 (this may be not by chance). The answer of the question for life, the universe, and everything. This is from "The Hitchikers Guide through the Galaxy", my favourite book, or to be more precise my favourite five books of the increasingly ill-named trilogy of four.







## Area of Intelligent Systems Interview with Professor Sven Behnke



## Which area(s) of computer science do you cover in your research?

In the Autonomous Intelligent Systems group, we do research in computational intelligence and cognitive robotics.

# Which topics do you cover in the modules you will offer to Master students?

In the first semester, I will offer the introductory lecture "Sensorimotor systems and cognitive robotics" in the Intelligent Systems track. In the following semesters, my group offers lectures on artificial life, neural networks, seminars on neural networks and robotics, and lab projects in robotics.

#### Which was the first programming language for you to learn? Which programming language do you like best?

I wrote my first lines of code in Basic. I like best C/C++, because of execution performance. Currently, I am excited about CUDA, which allows developing parallel algorithms for NVidia GPUs. For rapid prototyping, I also like Matlab. Will students attending your modules need the knowledge of any specific programming language? Will there be possibilities to learn that language during the course of the module?

Prior knowledge of C/C++ and Matlab will be helpful, but not required. There will always be enough time to become acquainted with new tools.

### Which branches of mathematics will students need for your modules?

Students will need linear algebra and theory of probabilities.

## Please tell us a little about your work history?

Before I came to Bonn University in April 2008, I was head of the humanoid robots group in Freiburg. There, we developed human-like robots for playing soccer and for intuitive multimodal communication with humans. In 2003, I was postdoc at ICSI Berkeley, where I did research in robust speech recognition. I received my PhD from FU Berlin in 2002 for a thesis on hierarchical neural networks for computer vision.

#### Who are your partners from industry or research-institutes?

We collaborate with the Computer Science Institute in Freiburg and with Fraunhofer IAIS. We also have connections to TU Delft (Biorobotics lab), Heidelberg (Optimization in Robotics and Biomechanics) and Osaka University (Asada lab).

#### Could you name some topics for diploma-thesises you have given out. What would you imagine as possible topics for a master-thesis?

Recent thesis topics were concerned with building structural maps of indoor environments from monocular cameras, head-pose estimation from images, recognition of gestures from video sequences, and gait optimization for humanoid robots. Future thesis topics could be, for example, utilizing massively parallel GPGPU computation to learn computer vision and speech recognition tasks, cognitive mapping using robots, and machine learning in robotics for gait optimization, imitation learning, grasping, etc.

## What prospects do students have to work in your group.

There are ongoing projects in the area of humanoid robots, where bright students are needed as research assistants. We also need RAs for the robotics lab and the computational intelligence lab. There are also opportunities for teaching assistants.

## Which operating system do you use?

I must admit that I use mostly Windows XP. Even the humanoid robots run this OS.

## Which computer scientist do you respect most?

This is though question. Joseph Weizenbaum passed away recently and I respect him for his fight against using computer systems for military purposes.

# How did you experience the work of the Fachschaft during your time of studies?

When I studied computer science in Halle, we were the first class and hence the Fachschaft needed to be established. It was very active with organizing the summer parties.

# And now for something completely different: What can you tell us about the number 42?

What was the question?



## Area of Intelligent Systems Description of the working group of Prof. S. Behnke

The Intelligent Systems Group has been established in spring 2008 as successor to the Division of Neuroinformatics (Prof. Eckmiller). As part of the Computer Science Institute VI, the group conducts research in the areas of computational intelligence and autonomous intelligent systems.

#### Computational Intelligence

To cope with imprecise, incomplete, and inconsistent information that arises in complex technical systems, computational intelligence uses biologically inspired soft-computing techniques, like artificial neural networks, evolutionary approaches, and swarm intelligence. Key characteristic of these methods is the sub-symbolic representation of knowledge, which leads to inherent fine-grained parallelism. Computational intelligence methods aim at reproducing features of biological information processing systems like adaptivity, fault tolerance, and high-speed parallel processing.

One example for such a biologically inspired system is the neural abstraction pyramid, which resembles some aspects of the human visual system. This hierarchical recurrent artificial neural network can be trained to solve computer vision tasks, such as face localization and image reconstruction.



#### **Cognitive Robotics**

Cognitive robots represent the next step in the fusion of machines, computing, sensing, and software to create intelligent systems capable of interacting with the complexities of the real world. They are the physical embodiment of machine intelligence. Key challenges in constructing these robots include the systematic treatment of uncertainties, the modeling of the environmental state, the coordination of teams of cooperating robots in dynamic environments, the interaction with humans, development, and learning.

Examples for cognitive robot systems are humanoid robots, which resemble the human body plan and rely on human-like senses. Our robots are playing soccer in the RoboCup Humanoid League. They are also used for intuitive multimodal communication with humans in a museum tour-guide scenario.





## Area of Intelligent Systems Interview with Professor Stefan Wrobel



## Which area(s) of computer science do you cover in your research?

The research of our group is centrally focussed on what we call "intelligent analysis and information systems", which refers to algorithms and systems that are capable of analyzing large volumes of data to learn from these data, discover hidden knowledge and thus support decisions in companies, in science or for individuals. Due to the large volume of data generated everywhere, from e-commerce to the web, this topic is of growing importance for computer science. Contributions come from areas such as Machine Learning, Data Mining, Knowledge Discovery in databases and Visual Analytics. Given examples of spam emails from the past, how can a system learn to automatically correctly classify future emails? Given a large database of molecules some of which are active against a disease, how can a system discover which other molecules might be worth testing? Given tracks of a few thousand people recorded with GPS receivers, how can systems support users in discovering mobility patterns and optimizing advertising? These are some of the areas where we apply the techniques that can be learnt in our modules.

# Which topics do you cover in the modules you will offer to Master students?

The topics we cover in our lectures are closely related to what you need to understand intelligent analysis and information systems, to apply them in practice, to develop them further or do research on them. In the introductory module named "Intelligent Learning and Analysis Systems", the fundamentals of the tasks, systems and algorithms and used in this field are taught, showing the main techniques and their formal and statistical basis. Students also get to see the most important current software packages hands on. In further modules, students can then deepen their knowledge either with a particular type of learning or discovery algorithm, or with respect to certain data types such as textual data or spatial data. These prepare students for their master's thesis and allow them to then go either into research or into applied positions in industry where data and information specialists are actively sought.

#### Which was the first programming language for you to learn? Which programming language do you like best?

The first programming language I learned was PASCAL, then Intel assembler, Lisp, Prolog, C, Java. Python and R are also used in our group. However, I cannot say that there is a language that is really best, since each language has its strengths and weaknesses, and there are good reasons for each one. I would say that Java is most popular for larger software systems, whereas interpreted languages are nice for certain more specialized or explorative tasks.

#### Will students attending your modules need the knowledge of any specific programming language? Will there be possibilities to learn those languages during the course of the module?

Since we are going to be working with a Machine Learning and Data Mining software based on Java, knowing Java certainly will help, but is not strictly required. For those who want to continue developing learning and analysis algorithms, Java or one of the more specialized languages above will be needed, but not at an extremely advanced level, so this can certainly be learnt while taking the classes.

## Which branches of mathematics will students need for your modules?

Basic knowledge of probability theory and statistics as well as basic knowledge of linear algebra would be very helpful, we do try to repeat what is needed at least in the exercise groups.

## Please tell us a little about your work history?

I received my Master's degree from the Georgia Institute of Technology in Atlanta, USA, and then moved to Berlin as a researcher in a Machine Learning project. After that, I spent some time at GMD, the German National Research Centre for Computer Science. With a few colleagues, we also founded a company, but I then moved on to become a professor at University of Magdeburg. In 2002, I moved into the joint position as professor at University of Bonn and institute director at Fraunhofer IAIS in which I am until now.

## Who are your partners from industry or research-institutes?

Our natural partner is of course the Fraunhofer Institute for Intelligent Analysis and Information Systems, Fraunhofer IAIS. In my lectures, students will get to know plenty of the business applications that researchers do at this institute, ranging from Media Analysis and Business to Security and Robotics. In all these fields, we apply intelligent learning and analysis algorithms and we regularly work with customers such as REWE, Axel-Springer Verlag, Vodafone and many others. In research, we place a strong emphasis on national and international cooperation, e.g. we lead one of Europe's largest research networks on Data Mining.

#### Could you name some topics for diploma-theses you have given out? What would you imagine as possible topics for a master-thesis?

We regularly have both theoretical, algorithmical and applied topics for master's theses. Recent topics include the automated extraction of named entities from text, linking them up to Wikipedia, and identifying suspicious patterns in large databases, as well as comparing algorithms on different applications and showing formal properties and guarantees in the general case.

## What prospects do students have to work in your group?

We offer student positions on a very regular basis, so that many students who are interested and qualified have a position with us.

## Which operating system do you use?

Mostly Windows and Linux.

## Which computer scientist do you respect most?

Of course there are many, but ... to name just one: Alan Turing. In his very early papers, he already foresaw the necessity to construct computers and algorithms that learn and sketched some ideas for how this could be done.

# How did you experience the work of the Fachschaft during your time of studies?

During the time where I was a student in Germany, having a Fachschaft was absolutely essential. There, one could always find people to help along and learn about those things that are not stated in any official publication. I am very glad we have such a strong Fachschaft in Bonn at this point.

# And now for something completly different: What can you tell us about the number 42?

Well, Douglas Adams comes to mind, it is not a prime number, and luckily it also does not take 42 semesters to finish a master's in Bonn!

Till Crueger, Lucas Ligocki

## Area of Intelligent Systems Description of the working group of Prof. S. Wrobel

#### Molecular Kernels

Our primary goal is to design and develop effective kernels for chemical molecules. Here effectiveness refers to the predictive power as well as the runtime efficiency of the kernels. So far we focussed mainly on making use of the 2D structure of the molecules, in future work we will strive to exploit the 3D structure of the molecules more.

#### Predictive Graph Mining

Graphs are a major tool for modelling objects with complex data structure. Devising learning algorithms that are able to handle graph representations is thus a core issue in knowledge discovery with complex data. Two separate challenges that we tackle are (i) estimation of a function on the set of all graphs and (ii) estimation of a function on the set of vertices of a graph. **Probabilistic Relational Robotics** Probabilistic relational robotics is a new area in robotics, concerned with perception and control in the face of uncertainty, objects, and relations among objects. Building on statistical relational learning and probabilistic robotics, it aims at endowing robots with a new level of robustness in real-world situations. We also address research questions in the underyling fields such as probabilistic robotics.

#### Relational Reinforcement Learning

Acting optimally under uncertainty is a central problem of AI. If an agents learns to act solely on the basis of the rewards associated with actions taken, this is called reinforcement learning. If the environment of the agent is furthermore best described using a variable number of objects and relations among them, this is called relational reinforcement learning.

#### Semi-Supervised Regression and Ranking

While transductive and semi-supervised classification is part of the state-of-theart in machine learning, transductive and semi-supervised ranking and regression are largely understudied. This is in contrast to the need for regression and ranking algorithms in real world problems in which obtaining labelled data is much more expensive and time consuming than obtaining unlabelled data.

### Statistical Relational Learning

We study and develop probabilistic machine learning and data mining techniques for structured domains, i.e., domains which are best represented using probabilistic models with a variable number of objects and relations among them. Example domains include bioinformatics, transportation systems, communication networks, social network analysis, robotics, among others. The structures encountered can be as simple as sequences and trees (such as those arising in protein secondary structure prediction and natural language parsing) or as complex as citation graphs, the World Wide Web, and even relational data bases.

#### Text Mining

There are estimates that more than 80% of the information in organizations and enterprises is unstructured text. Text mining is devoted to extracting information, relations and knowledge from unstructured text. It uses automatic data mining and machine learning methods in conjunction with linguistic and other techniques to capture the "meaning" of text.

#### Transduction on Massive

#### Extensional Databases

One common problem of many transductive and semi-supervised learning approaches is that they scale badly with the amount of unlabelled data, which prohibits the use of massive sets of unlabelled data. We will thus develop transductive and semi-supervised learning algorithms that scale only linearly with the amount of unlabelled data.





### **Editorial Section**

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To publish such a magazine as this takes a lot of effort. Hence we would like to thank all those people who have made this possible. All those who did invest their time, did so in their own spare time, to help you find a good place in the master program for computer science at the University of Bonn.

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#### Our lecturers

As you could notice most of the content of this magazine was given to us by those lecturers, who do their best each semester to make sure you have the highest standarts of teaching at your courses.

#### The Fachschaft

The members of the Fachschaft also do their best, to make sure your time of studies will be as worthwhile as possible. Hence we also take our time to thank all those fellow members of our Fachschaft, who do this marvelous work.

#### **Till Crueger**

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Vorkenntnisse sind willkommen, aber nicht notwendig. **Teamwork** sowie **kreative** Ideen sind gewünscht. Wir bieten eine **abwechslungsreiche** Arbeit in einer angenehmen Atmosphäre (Sessel, Couch, Kaffeemaschine, Mikrowelle, Computer, Musik) mit einem **flexiblen** Team. Zusätzlich gibt es eine Menge interessanter Informationen zur Bonner Informatik und **viel Spaß**. Außerdem lernst du bei uns "**Soft-Skills**", die in späteren Bewerbungen immer gut aussehen. Aufgrund unserer Erfahrung haben wir das Know-how, die Logistik und die notwendigen Kontakte, unsere Projekte erfolgreich durchzuziehen.

Und, neugierig geworden? Dann komm zu einem unverbindlichen Bewerbungsgespräch in die Fachschaft Informatik oder schreib uns eine E-Mail an fs@informatik.uni-bonn.de.

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(Nein, Geld gibt's dafür keins!)