HCM Workshop

"Interfaces of Spectral Theory, Operator Algebras and Noncommutative Geometry"

29. June - 3. July 2026

Lipschitz Lecture Hall, Mathematikzentrum, Endenicher Allee 60

Preliminary schedule, Will be updated regularly

Schedule

	Monday	Tuesday	Wednesday	Thursday	Friday
8:30 - 9:00	Registration / Start poster exhibition				
9:00 - 9:30	Invited talk: Elmar Schrohe	Invited talk: Magnus Goffeng	Invited talk: Christiane Tretter	Invited talk: Anna Skripka	Lecture series I+II: Alain Connes
9:30 - 10:00					
10:00 - 10:30	Coffee/Tea break	Coffee/Tea break	Coffee/Tea break	Coffee/Tea break	
10:30 - 11:00	Contributed talk: Álvaro Sánchez Hernández	Contributed talk: Ada Masters	Contributed talk: Ikhan Choi	Contributed talk: Sebastian Foks	
11:00 - 11:30	Invited talk: Nadine Große	Invited talk: Batu Güneysu	Invited talk: Walter van Suijlekom	Invited talk: Hermann Schulz-Baldes	Lecture series III: Henri Moscovici
11:30 - 12:00					
12:00 - 12:30	Lunch	Lunch	Contributed talk: Erfan Rezaei Gharehbolagh	Lunch	Lunch
12:30 - 13:00					
13:00 - 13:30					
13:30 - 14:00					
14:00 - 14:30	Contributed talk: Jørgen Lye	Contributed talk: Ksenia Fedosova		Invited talk: Alexander Strohmaier	Invited talk: Thomas Schick
14:30 - 15:00	Invited talk: Bram Mesland	Coffee/Tea break			
15:00 - 15:30			Lunch + Free Afternoon	Contributed talk: Lennart Ronge	
15:30 - 16:00	Contributed talk: Gihyun Lee	Celebratory remarks		Coffee/Tea break	
16:00 - 16:30	Cool drinks and casual interview with Matthias Lesch	Colloquium talk: Walter van Suijlekom		Invited talk: Christian Bär	
16:30 - 17:00					
17:00 - 17:30		Reception			
17:30 - 18:00					
18:00 - 18:30					
18:30 - 19:00					
19:00 - open end	End poster exhibition		Dinner at Tuscolo		

Invited talks, Titles and Abstracts

Christian Bär, Uni Potsdam. Thursday, 16:00–17:00

Spectral flow and the Atiyah-Patodi-Singer index theorem

We establish a formula for the spectral flow of a smooth family of twisted Dirac operators on a closed odd-dimensional Riemannian spin manifold, generalizing a result by Getzler. The spectral flow is expressed in terms of the $\widehat{A}$-form of the manifold, the odd Chern character form of the family of connections, and the ξ-invariants of the initial and final operators. Our proof is based on a reduction to the Atiyah-Patodi-Singer index theorem for manifolds with boundary, which provides a conceptually very simple approach to the problem. As an application, we give a proof of Llarull's rigidity theorem for scalar curvature of strictly convex hypersurfaces in Euclidean space which works the same in even and odd dimensions.

This is based on joint work with Remo Ziemke.

Alain Connes, IHES Paris. Friday, 9:00–11:00

From $\operatorname{Spec}\mathbb{Z}$ *to Zeta spectral triples*

In this extended two-hour seminar (joint work with Katia Consani for the first two parts and also with Henri Moscovici for the last part), we will explore the global geometric structure of the absolute curve–the one-point compactification $\overline{\operatorname{Spec}\,\mathbb{Z}}$–and its profound implications for the Riemann Hypothesis.

In the first part, we expound recent developments demonstrating that the adele class space arises naturally as the Picard monoid of this compactified curve. We subsequently construct a tentative global geometric structure $C = (\operatorname{Spec}\,\mathbb{Z})_{\mathbb{F}_1}$ for $\operatorname{Spec}\,\mathbb{Z}$

over $\mathbb{F}_1$.Taking the geometric points of C over a perfectoid field of characteristic p provides a foundational compatibility check: it successfully recovers the moduli space of untilts, yielding a precise geometric realization of the "Scholze heuristic" as formulated by J. Lurie, while illuminating the boundaries of local vs. global expectations at other primes.
The geometry of the adele class space transitions us, in the second half of the talk, to the spectral properties of the Riemann Zeta function. Starting from Riemann's explicit formulas, we show how the action of the idele class group on the adele class space gives the zeros of L-functions as an absorption spectrum, with the explicit formulas emerging as a Lefschetz formula carried by the image of the curve through the Abel-Jacobi map. We then detail the translation from an absorption to an emission spectrum via the semilocal adele class space.
Finally, we present a remarkable computational and analytic convergence: using a "zeta spectral triple" constructed from only the first five finite primes $(2, 3, 5, 7, 11)$, one can access the first fifty nontrivial zeros of the Riemann Zeta function with incredible precision. Crucially, the spectral triple truncated to finitely many primes is self-adjoint, ensuring these approximate zeros lie strictly on the critical line. This analytic architecture ultimately reduces the proof of the Riemann Hypothesis to demonstrating the convergence of the approximation of the lowest eigenvector of the Weil quadratic form by prolate spheroidal wave functions.

Katia Consani, Johns Hopkins University. Friday, 9:00–10:00
Canceled, Alain Connes will speak on Katia's behalf
On the absolute geometry of $\operatorname{Spec}\mathbb{Z}$

Magnus Goffeng, Lund University. Tuesday, 9:00–10:00
Poisson transforms and the Baum-Connes conjecture
We discuss Poisson transforms for semisimple Lie groups. Our main results concern Knapp-Wallach's Szegö maps from the boundary of a symmetric space to its interior. We prove sharp mapping properties for the Szegö maps and compactness of commutators with functions on the Furstenberg boundary. The results are motivated by Julg's program to prove the Baum-Connes conjecture with coefficients in real rank one and prove the remaining open conjecture of Julg. Based on joint work with Heiko Gimperlein.

Nadine Große, Uni Freiburg. Monday, 11:00–12:00
On codimension two boundary problems for Dirac operators
This is ongoing joint work with Bernd Ammann (Regensburg) and is motivated by a paper of Portman-Sok-Solovej where the Dirac operator with a magnetic flux supported on a knot in $\mathbb{R}^3$ was considered and where the authors made sense of this Dirac operator by introducing a boundary condition for the Dirac operator of $\mathbb{R}^3 \setminus S$, S being a Seifert surface with the knot as boundary. We wanted to understand the above as a special case of codimension 2 boundary conditions for Dirac operators. For that we deal in this talk with the special case where the manifold is a normal bundle over the codimension 2 hypersurface and where the spinor bundle has constant monodromy along the codimension 2 submanifold. We construct the right definition of a trace map in this context and classify self-adjoint boundary conditions.

Batu Güneysu, Uni Kiel. Tuesday, 11:00–12:00
Fermionic Dyson expansions and stochastic Duistermaat–Heckmann localization on loop spaces
Given a self-adjoint operator $H \geq 0$ and (appropriate) densely defined and closed operators $P_1, \ldots, P_n$ in a Hilbert space $\mathscr{H}$, we provide a systematic study of bounded operators given by iterated integrals

$$\int_{\{0\leq s_1\leq\cdots\leq s_n\leq t\}} \mathrm{e}^{-s_1 H} P_1 \mathrm{e}^{-(s_2-s_1)H} P_2 \cdots \mathrm{e}^{-(s_n-s_{n-1})H} P_n \mathrm{e}^{-(t-s_n)H}\, ds_1 \ldots ds_n, \quad t>0.$$

These operators arise naturally in noncommutative geometry and the geometry of loop spaces. Using Fermionic calculus, we give a natural construction of an enlarged Hilbert space $\mathscr{H}^{(n)}$ and an analytic semigroup $\mathrm{e}^{-t(H^{(n)}+P^{(n)})}$ thereon, such that $\mathrm{e}^{-t(H^{(n)}+P^{(n)})}$ composed from the left with (essentially) a Fermionic integration gives precisely the above iterated operator integral. This formula allows to establish important regularity results for the latter, and to derive a stochastic representation for it, in case H is a covariant Laplacian and the P_j's are first order differential operators. Finally, with H given as the square of the Dirac operator on a spin manifold, this representation is used to derive a stochastic refinement of the Duistermaat–Heckmann localization formula on the loop space of a spin manifold.

Bram Mesland, Leiden University. Thursday, 14:30–15:30
A category of correspondences for spectral triples
In their work on the foliation index theorem, Connes and Skandalis showed that the KK-theory of manifolds can be described entirely by correspondences, and characterised the Kasparov product in KK-theory in terms of connections. In Connes' paradigm of noncommutative geometry, manifolds are replaced by spectral triples, and Baaj-Julg put forward a definition of unbounded cycle for KK-theory. In this talk I will give a definition of correspondence of spectral triples as smooth KK-cycles equipped with a connection. Such correspondences can be composed on the nose (as opposed to up to equivalence) via the constructive unbounded Kasparov product to form a category. This category is flexible enough to accommodate natural geometric and noncommutative examples, yet rigid enough that it comes equipped with a surjective functor onto KK-theory. Matthias Lesch has been involved in various of the analytic aspects that play a role in this construction. The talk reports on unpublished work in progress.

Henri Moscovici, Ohio State University. Friday, 11:00–12:00
Zeta determinants aligned with Zeta
The prolate spheroidal wave operator, whose underlying ODE goes back to classical work on heat conduction in ellipsoids through separation of variables in prolate spheroidal coordinates for the Helmholtz equation, has played a surprisingly rich and unexpected role across several fields. After gaining considerable visibility through its "lucky accident" role in the 1960s solution by Slepian, Landau, and Pollak of the time- and band-limiting problem for signals, it reappeared in the late 1990s as a cutoff mechanism in Connes' trace-formula framework recovering the Riemann–Weil explicit formula in number theory. Connes also observed that, when extended to the whole real line, the prolate wave operator admits a unique self-adjoint extension commuting both with the Fourier transform and with its truncation to the finite time interval. This extension turned out to be unexpectedly significant: in 2022,

Connes and myself discovered that it possesses a purely discrete negative spectrum confined to the Sonin subspace, whose eigenvalues display a striking resemblance to the zeros of the Riemann zeta function. Recent work of Ramis, Richard–Jung, and Thomann (2025) shows that the Sonin space is precisely the repository of this negative spectrum. The aim of this talk is to show that the restrictions of the prolate operators to the cor- responding Sonin spaces possess zeta determinants naturally aligned with the Riemann zeta function. Moreover, they also admit semi-adelic extensions whose zeta determinants exhibit the same phenomenon. Interestingly, the Sonin prolate operators are closely related to a class of Sturm–Liouville operators studied extensively by Matthias Lesch and his collaborators.

Thomas Schick, Uni Göttingen. Friday, 14:00–15:00
Twisted (equivariant) K-theory: what, why, how
Twisted K-theory and its equivariant version have seen numerous applications in recent years, e.g. to model certain types of charges and fields in Quantum Field Theories and to implement T-duality isomorphisms.
The talk will give a survey on models for the construction of such groups, test cases for their use, and for computation tools. In the latter case, we will focus on geometric constructions of twisted and equivariant Chern character maps.
The presentation will report among other things on recent work with Ulrich Pennig and Valentin Marr as well as Tom Dove and Mario Velasquez.

Elmar Schrohe, Uni Hannover. Monday, 9:00–10:00
Elliptic Boundary Value Problems and Partial Group Actions
We consider a smooth compact manifold with boundary, M, embedded in a smooth manifold of the same dimension on which an amenable group Γ acts by isometries. We do not assume M to be invariant under Γ. This results in a *partial action* of Γ on M°: For $g \in \Gamma$ we let $M_g^\circ = g(M^\circ) \cap M^\circ$ and obtain diffeomorphisms $g : M_{g^{-1}}^\circ \to M_g^\circ$. We assume that any two images of ∂M under Γ either coincide or are disjoint and that only finitely many lie in M. The spherical blow-up of these images of ∂M in M yields a manifold Y with boundary consisting of finitely many components. Moreover, Y inherits a partial action of Γ. We can then define the C^*-algebra $\mathcal{A} = \overline{\Psi_\Gamma(Y, \partial Y)}$ of operators on $L^2(Y) \oplus L^2(\partial Y)$, generated by the algebra $\Psi(Y, \partial Y)$ of operators of order and type zero in Boutet de Monvel's calculus on Y and partial isometries associated with the partial action. Denote by $\Sigma = \overline{\Psi(Y, \partial Y)}/\mathbb{K}$ its symbol space. If the partial action of Γ on $\mathrm{Prim}(\Sigma)$ is topologically free, we find a criterion for the Fredholm property of the operators in $\overline{\Psi_\Gamma(Y, \partial Y)}$. Moreover, we obtain the classification of the elliptic elements in $\overline{\Psi_\Gamma(Y, \partial Y)}$ modulo stable homotopies: For $\mathcal{A}_0 = C(Y \sqcup \partial Y) \rtimes \Gamma$

$$\mathrm{Ell}(\mathcal{A}_0, \mathcal{A}) \cong K_0(C_0(T^*Y^\circ) \rtimes \Gamma) \oplus K_0(C(\partial Y) \rtimes \Gamma).$$

If Γ is finitely generated and of polynomial growth, then the elements associated with the second summand do not contribute to the index.

Joint work with Eske Ewert (Forschungszentrum Jülich) and Anton Yu. Savin (RUDN University, Moscow) in https://arxiv.org/abs/2605.29750

Hermann Schulz-Baldes, Uni Erlangen–Nürnberg. Thursday, 11:00–12:00
The spectral localizer for unbounded Hamiltonians

Anna Skripka, University of New Mexico. Thursday, 9:00–10:00
Positivity in perturbation theory: spectral shift and BMV conjecture.
Spectral shift theory and the Bessis–Moussa–Villani conjecture provide complementary approaches to the study of spectral variation under perturbations. The former focuses on changes in spectral data, while the latter concerns the completely monotone structure of traces of perturbed operator functions. We will present recent results on the positivity of higher-order spectral shift functions and on the BMV conjecture for operators with essential spectrum. Both rely on the positivity of traces of certain multilinear operator integrals that naturally arise in perturbation theory.

Alexander Strohmaier, Uni Hannover. Thursday, 14:00–15:00
Microlocal properties of the scattering map for the wave equation and positivity of energy
Linear wave-type evolution equations such as the Klein–Gordon equation and the Dirac equation play a fundamental role in the description of elementary particles and are a building block for relativistic quantum field theory. They interaction with gravity is encoded in the scattering map, that encodes how the solutions of the initial value problem depends on the metric. I will explain how this scattering map is defined mathematically and describe some of its basic properties. The description as a Lagrangian distribution allows to formulate and solve new problems in the theory of partial differential equations, and re-interpret classical results in a different way.

Walter van Suijlekom, Radboud University. Wednesday, 11:00–12:00
A generalization of K-theory to operator systems
We present a generalization of K-theory to operator systems. Motivated by spectral truncations of noncommutative spaces described by C*-algebras and inspired by the realization of the K-theory of a C*-algebra as the Witt group of hermitian forms, we introduce new operator system invariants indexed by the corresponding matrix size. A direct system is constructed whose direct limit possesses a semigroup structure, and we define the K_0-group as the corresponding Grothendieck group. This is an invariant of unital operator systems, and, more generally, an invariant up to Morita equivalence of operator systems. For C*-algebras it reduces to the usual definition. We illustrate our invariant by means of spectral truncations and the spectral localizer.

Colloquium talk (Walter van Suijlekom) Tuesday, 16:00–17:00
Drummed up for maths : spectra and geometry
Can you hear the shape of a drum? This question was asked some 60 years ago by mathematician Mark Kac, trying to reconstruct the shape of a vibrating membrane (the drum) from its (audible) vibrational spectrum. In the first part of the lecture we will study this spectral approach to geometry, while illustrating it using drums of different shapes.
We will then turn to the applications of spectral geometry in physics and astrophysics. We come to the conclusion that actually all our information about, say, the universe comes to us through spectra: instead of sound waves, the observed spectrum now ranges from radio waves, to electromagnetic waves, to gravitational waves. This means that the mathematical question of whether you can reconstruct

the shape (of, say, the universe) from a spectrum is directly applicable in physics and astronomy.
We end with a brief impression of current research, which deals with the question of how geometry is an emergent phenomenon, when an increasing part of the vibrational spectrum becomes available.

Christiane Tretter, Uni Bern. Wednesday, 9:00–10:00
Challenges for non-selfadjoint spectral problems in analysis and computation
Non-selfadjoint spectral problems appear frequently in a wide range of applications. Reliable information about their spectra is therefore crucial, yet extremely difficult to obtain. This talk focuses on tools to master these challenges such as spectral pollution or spectral invisibility. In particular, the concept of essential numerical range for unbounded linear operators is introduced and studied, including possible equivalent characterizations and perturbation results. Compared to the bounded case, new interesting phenomena arise which are illustrated by some striking examples. A key feature of the essential numerical range is that it captures, in a unified and minimal way, spectral pollution which may affect e.g. spectral approximations of PDEs by projection methods or domain truncation methods. As an application, Maxwell's equations with conductivity will be considered.
(Joint work with S. Boegli, M. Marletta, and also F. Ferraresso)

Contributed talks, Titles and Abstracts

Ikhan Choi, University of Tokyo. Wednesday, 10:30–11:00
A solution to Haagerup's problem on normal weights
We will introduce three open problems related to normal weights posed by Haagerup 50 years ago in his master's thesis. Among these, we especially discuss how we could solve the last problem and its meaning. This will provide a complete set of the positive Hahn-Banach separation theorems on operator algebras and shed light on why the weak* topologies on the duals of C*-algebras are relatively difficult to work with.

Ksenia Fedosova, Uni Münster. Tuesday, 14:00–14:30
On the limiting behavior of twisted Selberg zeta functions
The twisted Selberg zeta function for manifolds with cusps can be defined only for a certain type of representation, referred to as a representation with non-expanding cusp monodromy. If we were to drop this assumption, the respective Euler product would diverge everywhere. In this work, we approach the problem from the perspective of degenerations of compact manifolds by pinching a closed geodesic. We discuss the convergence of the respective Selberg trace formulas and Selberg zeta functions, and connect the contribution of the pinching geodesic to classical Jacobi theta functions. This is a joint work with Cipriana Anghel, Rares Stan, and Boris Vertman.

Sebatian Foks, AGH University of Krakow. Thursday, 10:30–11:00
Absolute continuity in C^*-algebras
The problem of absolute continuity for tuples of operators is studied. While prior work [4] established the equivalence between absolute continuity and Apostol's condition for tuples of commuting contractions in Hilbert space, satisfying von Neumann's inequality, a generalization to polynomially bounded tuples requires a

different approach. Using properties of Henkin measures [2], it was shown that Apostol's condition is equivalent to absolute continuity in the general case of polynomially bounded tuples of commuting Banach space contractions [3]. Building on these new techniques, extensions to the noncommutative case via noncommutative analogues of Henkin measures (introduced in [1]) are being developed. This talk will present the first results in the noncommutative case.

References

[1] R. Clouâtre, E. J. Timko, Non-commutative measure theory: Henkin and analytic functionals on C*-algebras, Math. Annalen 386 (2023), 415–453

[2] J. Eschmeier, Invariant subspaces for commuting contractions, J.Operator Theory 45 (2001), 413–443

[3] S. Foks, Equivalence of Absolute Continuity and Apostol's Condition, (2025), https://arxiv.org/abs/2503.14256

[4] M. Kosiek, A. Octavio, Representations of $H^\infty(D^N)$, and absolute continuity for N-tuples of contractions, Houston J. of Math. 23, (1997), 529–537

Erfan Rezaei Gharehbolagh, Uni Göttingen. Wednesday, 12:00–12:30
Contact Fibrations, Families of Toeplitz Operators and Index Theory
We discuss the geometry of contact fibrations, their Heisenberg calculus and families of Toeplitz operators. In their work Baum and Van Erp prove an index theorem in K-homology for hypoelliptic operators on contact manifolds and as a corollary they obtain the index theorem of Boutet de Monvel for Toeplitz operators. In this talk we will generalize their index theorem to the family setting and we will provide an application of Toeplitz operator families to the star-product of symplectic fibrations. This is joint work with Clément Cren.

Gihyun Lee, Uni Potsdam. Monday, 15:30–16:00
An Abstract Framework for τ-Pseudodifferential Calculus in Noncommutative Analysis and Geometry
We introduce an abstract τ-pseudodifferential calculus providing a unified and analytically rigorous framework for a broad class of pseudodifferential calculi arising in noncommutative analysis and geometry. The framework encompasses, among others, the pseudodifferential calculus on noncommutative tori used by Connes–Tretkoff, its generalization to matrix-valued symbols by Fathi–Khalkhali and Tao, the calculus employed by Lesch–Moscovici in their study of modular Gaussian curvature, the operator-valued symbol calculus of Xia–Xiong, the Weyl calculus with operator-valued symbols developed by De Nittis–Lein–Seri, and the pseudodifferential calculus on quantum Euclidean spaces due to González–Pérez–Junge–Parcet.
As each of these works is primarily directed toward specific geometric or analytic applications, certain foundational aspects are left implicit or treated only in special cases. Rigorous justifications of the underlying oscillatory integrals are not always provided, many treatments are restricted to $(1,0)$-type symbols, and most works develop either Kohn–Nirenberg or Weyl quantization, but not both.

For arbitrary $\tau \in \mathbb{R}$, we construct a τ-pseudodifferential calculus covering the (ρ, δ)-type generalizations of all the calculi listed above. In particular, $\tau = 0$ (Kohn–Nirenberg calculus) and $\tau = 1/2$ (Weyl calculus) are treated on equal footing within a single abstract framework. We expect the resulting framework to provide a flexible foundation for future work employing pseudodifferential methods in noncommutative settings.
This talk is based on joint work with Vishvesh Kumar, IIT (BHU), Varanasi, India.

Jørgen Lye, Uni Köln. Monday, 14:00–14:30
Winding and focussing for geodesics passing a thin cuspidal neck
I will report on recent work with Daniel Grieser concerning the behaviour of geodesics on a family of manifolds which develop a conical or cuspidal singularity. Our main results are that geodesics will either start winding around the nascent singularity arbitrarily often, or they will approach the singularity from certain special directions. These results are obtained by a careful analysis of the geodesic flow as a Hamiltonian system, and some suitable rescaling procedure via blow-ups and a rescaled cotangent space.

Ada Masters, Lund University. Tuesday, 10:30–11:00
Locally compact group extensions as a microcosm of the constructive Kasparov product
Since Connes's 1989 paper, the use of length functions to build spectral triples for group C*-algebras has become commonplace in noncommutative geometry. I will discuss a more general framework which applies to locally compact groups and, further, to 'fissured' Fell bundles over them. This framework involves the building of unbounded Kasparov modules from 'directed length functions' which, in many cases, can be shown to have nontrivial index theory. Given an extension G of a l.c. group H by a l.c. group N, it is natural to ask whether a spectral triple for $C^*(G)$ can be built from corresponding data on H and N. As it turns out, this is a microcosm of the constructive unbounded Kasparov product, as pioneered by Mesland, Kaad, and Lesch. The universal cover of $SL(2, \mathbb{R})$ is a case where the constructive product works well. Generically, however, the constructive Kasparov product fails. For the Heisenberg group, and other nilpotent groups, the framework of tangled spectral triples can be used to remedy this. On the other hand, for many semidirect products, a different and more drastic functional calculus, logarithmic dampening, can be used to produce a spectral triple.
This talk includes joint work with Magnus Fries, Magnus Goffeng, Adam Rennie, and Anne Thomas.

Lennart Ronge, Uni Potsdam. Thursday, 15:00–15:30
Equivariant index and spectral flow via Eigenspace decompositions
We present a surprisingly simple method for reducing equivariant indices and spectral flows to non-equivariant ones, using a decomposition into eigenspaces of the group action. This has played a role in the proof of the equivariant Lorentzian index theorem and may prove useful for reducing equivariant theorems to non-equivariant theorems in other areas as well.

Álvaro Sánchez Hernández, Uni Hannover. Monday, 10:30–11:00
On the spectral and index theory of manifolds with multiply fibred boundary

As pointed out by Singer, the profound results of the 60's and 70's, especially revolving around index theory, showed the great extent to which elliptic operators reflect the geometry (and topology) of compact spaces. As a consequence, there came a natural desire to understand whether this connection generalizes e.g. to non-compact or singular settings.
The first advancement in this direction was undertaken by Cheeger and Chou in their study of cones and pseudomanifolds; to date, there has been considerable progress within many different classes of geometries.
This talk shall focus on one of these, which encompasses several relevant examples of moduli spaces and algebraic varieties. The model is a compact manifold with boundary, whose boundary is the total space of a tower of fibrations, with a metric on the interior with specified growth in each boundary direction. In particular, we will briefly revisit what has been said, and present some work in progress, highlighting how much data is to be extracted from the asymptotics of the heat kernel.

Poster exhibition

Monday, 8:30–open end
Everybody is invited to participate in the poster exhibition, which will take place during Monday in the adjacent room of the Lipschitz lecture hall. If you would like to participate, please bring a printed poster for display. A0 is the standard format, as we have large display walls available, but smaller formats are also welcome.
To help us prepare the exhibition space, please let us know the format you plan to bring once your poster has been printed.

Dinner

Wednesday, 19:00

Tuscolo Bonn Münsterblick
Gerhard-von-Are-Straße 8
53111 Bonn

Menu: https://tuscolo.de/wp-content/uploads/Menu_Tuscolo_WEB_EN.pdf

We would like to note that the conference dinner, unfortunately, can not be covered by the conference budget and will therefore be at the participants' own expense.

"Interview"

Monday, 16:00–17:00
With cool drinks provided for the audience, the organizers will sit down with the birthday boy in the room next to the lecture hall for a relaxed conversation about his mathematical life, career, and perhaps a few stories from along the way.