

Midterm Report — Research Activity

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This report summarises our research activity during the first two years of the FLAVIA*net* funding period and serves as a basis for the midterm review. We summarise the research achievements of the 11 nodes in Sect. 1. In Sect. 2 we list the publications of our network. Sect. 3 describes the presentation of our scientific results at international conferences and describes our networking activity. Finally we conclude.

1 Research Achievements

The research of the 11 FLAVIA*net* nodes listed in Tab. 1 is organised in 6 working groups:

No.	Node	Acronym	Institutions involved	Sc. in Charge
1	Spain-V	UVEG	UVEG, CSIC, U. Murcia, U. Groningen (Holland)	A. Pich
2	Spain-B	UAB	UAB, UB, UPC (Barcelona), U. Granada, U. Huelva	S. Peris
3	UK	UDUR	U. Durham, U. Oxford, U. Southampton	M. Pennington
4	Germany-S	UniKarl	TTP, EKP (Karlsruhe), RWTH (Aachen), TU, MPI (Munich), U Siegen	U. Nierste
5	Italy	INFN	Frascati, Bari, Bologna, Milano, Napoli, Pisa, Roma (1,2,3)	G. Isidori
6	Poland	Univ. of Silesia	U. Silesia, INP (Cracow), INS, ITP-WU (Warsaw)	H. Czyż
7	Nordic	ULUND	U. Lund (Sweden), Helsinki IP (Finland), U. Oslo (Norway)	J. Bijnens
8	France	CNRS	LPT, IPN, LAL (Orsay), CPHT-X, LLR-X (Palaiseau), LPT (Strasbourg) CPT, CPPM (Marseille), LPTA (Montpellier), Ch. U. Prague (Czech R.)	S. Descotes-G.
9	Switzerland	UBERN	U. Bern, U. Lausanne, U. Zürich, CERN	G. Colangelo
10	Austria	UNIWIEN	U. Wien, U. Bratislava (Slovakia), U. Ljubljana, Inst. J. Stefan, U. Maribor (Slovenia)	H. Neufeld
11	Germany-N	DESY	DESY (Zeuthen, Hamburg), Humboldt U. Berlin, U. Bonn, U. Mainz, U. Münster	R. Sommer

Table 1: Nodes as laid out in Annex I of the FLAVIA_{net} contract.

No.	field	convenors
1	Kaon physics	J.Bijnens, G. Isidori
2	B-physics	P. Ball, U. Nierste
3	Tau-charm and quarkonium physics	N. Brambilla, M. Jamin
4	Analytic approaches to non-perturbative QCD	M. Knecht, E. Pallante
5	Lattice methods	G. Colangelo, R. Sommer
6	Radiative return and Monte Carlo tools	H. Czyż, J. Kühn

In this section we describe the scientific activity of the nodes with emphasis on the relation to the working groups and to our milestones listed in Tab. 2. The activity in the period 01/10/2006 — 31/07/2008 is listed as “first year”, while “second year” refers to the period 01/10/2007 — 31/07/2008.

Tasks		Working groups					
Strong sector of the Standard Model		1	2	3	4	5	6
1	Low-energy meson-meson interaction	•			•		
2	Strong chiral low-energy couplings	•			•	•	
3	QCD parameters: m_q, α_s	•	•	•		•	
4	Hadron spectroscopy		•	•	•	•	•
5	Light-cone distribution amplitudes		•		•	•	
6	Hadronic Vacuum polarisation and $(g - 2)_\mu$			•	•		•
Electroweak sector of the Standard Model		1	2	3	4	5	6
7	$ V_{us} $ ($K_{\ell 2}, K_{\ell 3}, \tau$)	•		•		•	•
8	Weak chiral low-energy couplings	•		•	•	•	
9	Weak kaon matrix elements, ϵ'/ϵ and $\Delta I = 1/2$	•			•	•	
10	Non-leptonic B and D decays		•	•	•	•	•
11	D and B semi-leptonic form factors		•	•	•		•
12	Radiative corrections in Monte Carlo generators	•	•	•			•
13	Global assessment of CKM mechanism	•	•	•			
Physics beyond the Standard Model		1	2	3	4	5	6
14	Rare K and B decays	•	•		•	•	
15	$b \rightarrow s$ transitions		•		•	•	•
16	τ -charm tests of the Standard Model			•	•	•	•
17	Supersymmetric GUTs		•			•	
18	Signals of alternatives to supersymmetry	•	•		•	•	
19	Global CKM fits for New Physics models	•	•	•			

Table 2: Milestone tasks according to the FLAVIANet contract.

1.1 Activity of the nodes

Node No. 1: Spain-V (Universitat de València Estudi General [UVEG])

First Year: Our research has covered milestones 1–3, 6–17 and 19. Different aspects of meson and baryon interactions at low energies have been studied (milestone no. 1) [1–6]. In a joint work with the Vienna and Bern nodes the two-flavour $O(p^6)$ mesonic chiral Lagrangian has been revisited [7] and first results on the strange quark mass contributions to $SU(2)$ LECs at the two-loop level were presented [8]. A new method to determine the LECs of ChPT at NLO in $1/N_C$ has been presented and L_8 and C_{38} have been estimated [9] (milestone no. 2). Together with the Germany-South node, progress has been achieved in the comprehension of the resonance saturation of $SU(3)$ LECs at the one-loop level [10, 11]. In collaboration with the Switzerland and Germany-North nodes, we are pursuing a lattice determination of the LECs of ChPT, including also the weak interactions, using Ginsparg-Wilson regularizations and finite-size scaling techniques in the ϵ -regime. We are currently studying meson current correlators at different volumes and lattice spacings [12]. A computation of the chiral condensate through a finite-size scaling

study on the lattice is also in progress [13]. Lattice calculations of light-quark masses and decay constants with twisted-mass fermions have been performed in collaboration with DESY and INFN [14, 15] (milestone no. 3). Our lattice activity also includes a fully-dynamical study of hyperon-nucleon scattering [16] and the analysis of quenched-penguin and charm effects on the $\Delta I = \frac{1}{2}$ rule and ε'/ε [17–19] (milestone no. 9).

In collaboration with Marseille, a multi-scale analytical technique is being applied to the calculation of the muon magnetic anomaly $g - 2$ (milestone 6) and the $K_{\ell 3}$ form factor $f_+(0)$ at the 2-loop level (milestone no. 7). Radiative corrections [20, 21] to $\pi/K \rightarrow e\bar{\nu}_e[\gamma]$ have been studied at $\mathcal{O}(e^2 p^4)$. The interplay between form-factors and QCD constraints in the case of the radiative pion decay has also been explored [22]. The most recent Babar and Belle data have been used to improve the V_{us} determination [23–25] and update other Standard Model tests from τ decay [26–28] (milestones no. 7,16).

The physics potential of a future Super-B factory (milestones no. 10,11,14–16) has been analyzed in collaboration with other FLAVIANet nodes [29]. Some supersymmetric flavour scenarios have been studied, together with the INFN node [30] (milestones no. 17) and constraints on new-physics sources of CP violation have been obtained [31, 32] (milestones no. 13,19). The last developments of the Monte Carlo event generator PHOKHARA (milestone no. 12) have been presented in [33]. Different corrections to high-energy processes within and beyond the Standard Model have been also studied [34–38]. Some members of the Valencia node are currently working within the Babar collaboration at the SLAC B Factory.

Second Year: In collaboration with nodes 9 and 11 [59] a detailed comparison between the results of (quenched) lattice QCD and the predictions of (quenched) ChPT at NLO has been performed. In particular, two different chiral regimes (p - and ϵ -regimes) have been considered. Volume and quark mass dependence of current correlators has been studied. In the ϵ regime, also the dependence on the topological charge has been investigated. Finally, the leading order LECs F and Σ have been extracted in the two regimes (milestone no. 2): the agreement among those independent determinations shows that quenched QCD is well reproduced by quenched chiral effective theory at leading order.

The determination of LECs of ChPT is a relevant task for its predictability in low-energy hadron physics. Together with a calculation of the vector and axial-vector two-point functions at NLO in the $1/N_C$ expansion, a subleading estimation of L_{10} and C_{87} has been presented [60] (milestone no. 2). In addition and in collaboration with Bern (node 9) we have worked out the strange quark mass contributions of the electromagnetic $SU(2)$ LECs at NLO [61]. Similar results for the strong $SU(2)$ LECs at NNLO are in preparation.

We have obtained interesting results in the reaction $\gamma\gamma \rightarrow \pi\pi$ [62,63], extending the applicability of dispersion relations. We also studied the implication of strong scalar meson-meson dynamics on the pseudoscalar self-energies arriving to two constraints involving the chiral counterterms L_4 , L_5 , L_6 and L_8 [64]. In ref. [65] we studied the $I = 0$ and $1/2$ S-wave meson-meson dynamics up 2 GeV, including multi-particle states (milestone no. 1). We have identified the lightest scalar glueball corresponding to the $f_0(1710)$ and a strong contribution to the $f_0(1500)$. The first scalar octet at around 1.4 GeV was identified as mainly an octet (milestone no. 4).

In collaboration with the node 4 [37,66] we have studied the production of exotic resonances and its decay to top-antitop quark pairs at Tevatron and the LHC. In addition a new method for the

computation of cross-sections of multipartonic processes at the LHC with NLO accuracy have been developed in [67, 68]. Finally the phenomenological predictions of Grand Unified Models (GUT) and its connections with proton decay have been presented in [69] (milestones no. 17, 18). In collaboration with Marseille (node 8) we developed a new general multi-scaled technique based on multidimensional inverse Mellin transformation [70] to obtain asymptotic expansions. We illustrated this by an application on the $g-2$ of the muon at 4 and 5 loops level (milestone no. 6). In collaboration with Bern/Zürich (node 9) we are applying this technique to the calculation of chiral integrals involved in the calculation of Kaon form factors (milestone no. 7). Also in collaboration with Orsay (node 8) we are looking for new applications of the Mellin-Barnes representation of QCD.

The group of Groningen addresses three lines of research. The first one is devoted to Lattice field theory for baryon interactions (milestone no. 4) and is part of the effort of the European Twisted Mass Collaboration (ETMC), which involves members of nodes 1, 8 and 11. The second line is a thorough investigation of how additional flavours of matter modify the phase structure of non-abelian gauge theories, in particular the transition from a confined to a deconfined phase [71]. Finally the third line aims to isolate a mechanism for the generation of the flavour and neutrino mass hierarchies within scenarios with extra dimensions (milestone no. 18). A more mathematical investigation of how Majorana spinors in four dimensions can be generated through boundary conditions on the compactified extra dimension(s) is in publication [72].

Tau physics is an important tool both to analyse the hadronization of QCD currents (in the semileptonic decays of the tau lepton) and to explore new physics (like in lepton flavour violation tau decays). Along these lines we have studied the latest data by the Belle experiment in the $\tau \rightarrow \nu_\tau K_S \pi$ decays [73], in collaboration with node 2, and lepton flavour violation tau decays in a constrained MSSM-seesaw scenario [74].

The research activities of the Valencia group in the BaBar experiment have expanded on the measurement of the CKM angle γ [75–77], Mixing and CP Violation in D decays [78, 79], the measurement of $|V_{ub}|$ using semileptonic decays [80], and the study of hadronic form factors in semileptonic D meson decays [81].

Node No. 2: Spain-B (Universitat Autònoma de Barcelona [UAB])

First Year: The research node 2 has been involved in most of the FLAVIANet tasks. For example, studies on V_{us} and QCD parameters were conducted in [23–25] (milestone no. 7 and 3), B semileptonic decays were studied in [82, 83] (milestone no. 11) and the problem of matching Regge behavior to perturbation theory was considered in [84] (milestone no. 3). In [85] a connection between resonance saturation and Pade theory was pointed out (milestone no. 2). Several articles which studied aspects of non-leptonic B decays within the Standard Model and in Supersymmetry are [86–88] (milestones no. 10, 14 and 15). How to use $\Upsilon(1S)$ decays to extract α_s was analyzed in [89], while [90] was devoted to the nucleon-nucleon potential (milestone no. 4). Some aspects of baryon physics were studied in [91, 92] (milestone no. 4,13) and, in connection with the lattice, in [16]. The usefulness of the decay $K^+ \rightarrow 3\pi$ for ϵ'/ϵ was pointed out in [93] (milestones no. 8,9 and 13), and for low-energy $\pi - \pi$ scattering in [94] (milestones no. 1,2). The gluon content in η and η' mesons was considered in [95] (milestone no. 4). Finally, the col-

laboration of the experimental group at Univ. of Barcelona with the Babar experiment produced numerous studies of different aspects of B, D and K meson physics [96–101] (milestones no. 4,6, 10,13 and 14). More details may be found in the list of publications.

Second Year: We calculate the $\sigma \rightarrow \gamma\gamma$ width = (1.2 ± 0.4) keV using only available precise experimental data on the proton electromagnetic polarizabilities together with analyticity and unitarity [107]. In [108] we review the recent calculations and present status of the hadronic light-by-light contribution to the muon $g - 2$. We computed the spin-independent structure functions of the forward virtual-photon Compton tensor of the proton at one loop using heavy baryon chiral perturbation theory and dispersion relations. We then computed the leading chiral term of the polarizability correction to the Lamb shift of the hydrogen and muonic hydrogen [109]. We studied the constraints that the operator product expansion imposes on large N_c inspired QCD models for current-current correlators. We explicitly showed that, assumed a given mass spectrum: linear Regge behavior in n (the principal quantum number) plus corrections in $1/n$, one can obtain the logarithmic (and constant) behavior in n of the decay constants within a systematic expansion in $1/n$ [110]. We identify for the first time ever a violation of the OPE in a quantum field theory, in the 't Hooft model [111]. We have computed the ground-state energies of systems containing up to twelve pions in dynamical, mixed-action lattice QCD, and found that the chemical potential receives a substantial contribution from the $3\pi^+$ interaction at the lighter pion masses we have investigated [112]. We calculated the K^+K^+ scattering length in fully-dynamical lattice QCD with domain-wall valence quarks on the MILC asqtad-improved gauge configurations with rooted staggered sea quarks, and use three-flavor mixed-action chiral perturbation theory at NLO to extrapolate to the physical m_K^+/f_K^+ value, finding $m_K^+a_K^+K^+ = -0.352 \pm 0.016$ [113]. We calculated the $I = 2\pi\pi$ scattering length in fully-dynamical lattice QCD with domain-wall valence quarks on the asqtad-improved coarse MILC configurations, and use two- and three-flavor mixed-action chiral perturbation theory at NLO to perform the chiral and continuum extrapolations, finding $m_\pi a_{\pi\pi}(I = 2) = -0.04330 \pm 0.00042$ [114]. We obtained a model independent expression for $B_0(m_u + m_d)$ from the electromagnetic correction to the η to 3 neutral pions [115]. All three-point order-parameter Green functions are computed at the next-to-leading logarithmic level. This calculation is a necessary ingredient for the matching of those Green functions with the resonance chiral theory at the corresponding level [56]. Recent experimental data on the decay $\tau^- \rightarrow \nu_\tau K_S \pi^-$ from the Belle collaboration are fit with a description of the required form factors based on analyticity, unitarity and the resonance chiral theory. The fits allowed to extract the resonance parameters of the $K^*(892)$ meson as well as the low-energy slopes of the $K\pi$ vector form factor [73]. The determination of α_s from hadronic τ decays is revisited. Based on a renormalon model of higher-order perturbative corrections to the Adler function it is demonstrated that α_s extracted from τ decays turns out significantly lower than found in previous determinations [116]. Final state polarization in $B \rightarrow VV$ decays are studied comparing $b \rightarrow s$ decays with their U-spin counterparts [117]. Three different strategies to extract the weak mixing phase of the B_s system together with comments on the isospin, forward-backward and polarization fraction of the K^* in the decay $B \rightarrow K^* l^+ l^-$ are discussed [118]. New observables sensitive to the longitudinal spin amplitude of the K^* in the decay $B \rightarrow K^* l^+ l^-$ are constructed and calculated in the framework of QCDF. They are analyzed in the SM and supersymmetry including their experimental sensitivity at LHCb and Super-LHCb [119]. We performed a phe-

nomenological analysis of radiative $V \rightarrow P\gamma$ and $P \rightarrow V\gamma$ decays in order to determine the gluonic content of the η' wave function [120]. We deduced the η - η' mixing angle is from an updated phenomenological analysis of J/ψ decays into a vector and a pseudoscalar meson [121]. We calculated the radiative decays $V \rightarrow S\gamma$ and $S \rightarrow V\gamma$ with $V = \rho, \omega, \phi$ and $S = a_0, \sigma, f_0$ within the framework of the Linear Sigma Model [120]. We propose a low energy effective field theory of QCD at the scale of pion mass for the $N_B = 2$ sector, N_B being the baryon number, which contains two dibaryon fields in addition to the nucleons and pions. We calculate the scattering amplitudes at next-to-leading order for the 1S_0 and 3S_1 channels in this framework and obtain an excellent description of the phase shifts for center of mass energies in the $0 - 50\text{MeV}$ range [122]. We illustrate how to apply modern effective field theory techniques and dimensional regularization to factorize the various scales which appear in non-relativistic bound states at finite temperature. We discuss in detail the interplay of the hard, soft and ultrasoft scales of the non-relativistic system at zero temperature with the additional scales induced at finite temperature. We also comment on the implications of our results for heavy quarkonium bound states in the quark gluon plasma [123]. We study the photon induced Lambda(1520) production in the effective Lagrangian method near threshold [124]. With the help of a model, we study the potential impact of duality violations on the determination of OPE parameters and, in particular, on the determination of α_s . We devise a method to extract these parameters from the experimental data in the presence of duality violations [125]. Using rational approximants, we determine the value of one of the order- p^6 parameters of the chiral Lagrangian. The new method used allows a better control of the systematic error than in previous determinations [126].

Node No. 3: UK (University of Durham [UDUR])

First Year: The UK node has contributed to the mission of Working Groups 1 [127–130], 2 [29, 82, 83, 102, 131–140], 3 [141–149], 4 [150–156] and 5 [103, 157–166] and milestones 1-5, 7-11, 13-15 and 17-19.

Lattice calculations using partially twisted boundary conditions of Ref. [159] have proved an efficient method for determining hadronic electromagnetic and weak form factors as a function of momentum transfer. Using new high precision data on $B \rightarrow \pi$ semi-leptonic decays, a model independent value for the magnitude of the CKM element V_{ub} is extracted [138], which disagrees by 2σ from the Heavy Flavour Averaging Group result using inclusive decays. Using lattice data to fix the form factor relevant to the same semi-leptonic decay, similar conclusions are reached in Ref. [82]. The ability to discover new physics signatures in heavy flavour decays depends critically on the precision with which Standard Model physics predictions can be made. In Ref. [137] the branching ratios, CP and isospin asymmetries in the radiative decay of B 's to vector mesons, V , in $B_{u,d,s} \rightarrow V\gamma$ are calculated not just including QCD factorisation results, but using light-cone sum rules to go beyond this. This sets benchmarks for new physics searches. In Ref. [153, 156] the behaviour of the $\bar{q}q$ condensate as a function of quark mass is determined in strong coupling modellings of QCD based on solutions of the Schwinger-Dyson equations and from lattice results.

One of the highlights of recent high precision studies of heavy flavour decays is the discovery of new and unexpected hadrons. This has led to the discussion in Ref. [145, 148] of how to resolve

what we do not know. Dalitz plot analysis of the favoured $D^+ \rightarrow K^- \pi^+ \pi^+$ decays with 53,000 events from the FOCUS experiment provide a dramatic testing ground for our understanding of hadron dynamics. The analysis presented in Ref. [147] shows these data are dominated by two body interactions consistent with all known data on the $K\pi$ final state, but at a greater level of precision.

Second Year: The UK node has contributed to the mission of Working Groups 1 [127, 167–172], 2 [167, 173–176], 3 [177–184], 4 [151, 152, 185] and 5 [127, 157, 162, 168–172, 174, 175, 186–188] and milestones 1,2,4,5, 7-11, 15 and 18.

Ref. [167] summarizes the results of working group 2, B, D, and K decays, of the workshop "Flavour in the Era of the LHC", held at CERN from November 2005 through March 2007. It provides, on one hand, a coherent, up-to-date picture of the status of flavour physics before the start of the LHC; on the other hand, it aims to initiate steps on the path towards integrating information on new physics from high- p_T and flavour data. Ball et al. contributed to the sections on weak decays of hadrons and QCD, radiative penguin decays and B-meson mixing. In Ref. [173], to be published in Physics Letters B, Ball et al. investigate the light-cone distribution amplitudes of the Λ_b baryon, which is a necessary ingredient in analyses of Λ_b decays into light hadrons. The QCD evolution equation is derived and solved to leading order in the QCD coupling. A simple model of the distribution amplitude is presented.

The Oxford group has studied exotic hadrons, focussing on methods to determine the nature of various enigmatic hadrons that may be molecules, hybrids or misidentified non-resonant effects [177–179]. Ref. [177] in particular criticises existing work in the literature and clarifies the flavour dependence of molecule formation, in both exotic and non-exotic channels. Ref. [178] shows that if the tetraquark $Z(4430)$ is a real state, then photoproduction may be used to clarify its status. Ref. [179] compares the flavour dependence of hybrid signals and effects driven by π exchange as a way of searching for, or eliminating, hybrid meson candidates. Hadron production of various flavours in charmonium decays is discussed in [180] and the potential for finding exotic light-flavoured hybrids in these decays evaluated. In Ref. [181] Close and Donachie present a state-of-the-art treatise on electromagnetic interactions of hadrons. This will be a classic reference for a generation of experimentalists and phenomenologists.

The Southampton Group have been performing lattice computations with chiral fermions to obtain fundamental quantities in flavour physics. Perhaps the highlight has been the precise determination of the V_{us} element of the CKM matrix by calculating the semileptonic form factor of $K_{\ell 3}$ decays [169]. This work is being continued through the implementation of *partially twisted boundary conditions* to enable the determination of the form factor without the need for an extrapolation in the momentum transfer. A related project, based on the use of these boundary conditions, has been the first calculation of the pion's electromagnetic form factor at low values of the momentum transfer and the determination of the charge radius. Another important aspect of our lattice work are the implications for chiral perturbation theory [187]. In addition to the evaluation of the low energy constants for pionic quantities we have studied the range of validity of one-loop chiral perturbation theory and find that it fails above about 400 MeV, and in particular for the strange quark. For this reason we have developed SU(2) chiral perturbation theory for the kaon sector, and this was one of the major Southampton contributions to ref. [187]. We advocate this as the method of choice for chiral extrapolations in kaon physics. Other signif-

icant Southampton contributions have included the evaluation of the decay constants of vector mesons [157, 187] and the low moments of parton distribution amplitudes [157]. In non-lattice flavour physics our work has focussed on the determination of the V_{ub} matrix element using analytical techniques.

Two photon production of hadronic resonances is one of the clearest ways of revealing their composition. A major input into the study of the enigmatic scalars is provided by data on $\gamma\gamma \rightarrow \pi^+\pi^-$ from Belle with a hundred times the statistics of all previous experiments. Pennington with the Belle group [183] have published a complete Amplitude Analysis of the world data on integrated and differential cross-sections on $\gamma\gamma \rightarrow \pi\pi$ and provided a new determination of the radiative widths of low mass isoscalar resonances [182, 184].

Node No. 4: Germany–South (Universität Karlsruhe (TH) [UniKarl])

First Year: The research of the node addressed milestones no. 3,5,10 and 13–18, which span the topics of all working groups. In [189, 190] we have determined the strong coupling constant α_s and the charm and bottom quark masses to four-loop accuracy (milestone no. 3) from e^+e^- scattering into hadrons. Future determinations of the top mass were addressed in [191]. The determination of electric and magnetic baryon form factors via baryon pair production through the radiative return was studied in [192]. The prime activity of the node were studies of various aspects of weak B decays in and beyond the Standard Model and thus took place in working group No. 2: Calculations within the Standard Model dealt with form factor determinations from light-cone sum rules [193] (milestone no. 5), inclusive semileptonic B decays [194] and various calculations of B decay amplitudes into two light hadrons. Using methods of soft-collinear factorisation we derived new results in the next-to-leading order (NLO) of QCD [195, 196] and made first steps into the next-next-to-leading order (NNLO) [197] (milestone no. 10). Systems involving two heavy quarks can be treated with non-relativistic QCD (NRQCD); new higher-order corrections were obtained in [198–200]. Analyses beyond the Standard Model either pursued generic, model-independent constraints on new parameters or focussed on either of two concrete scenarios of new physics: the Minimal Supersymmetric Standard Model (MSSM) and the Littlest Higgs Model with T parity. $b \rightarrow c$ transitions [201], $B \rightarrow K\pi, \pi\pi$ decays [202] (milestone no. 14), $B-\bar{B}$ mixing [203, 204] (milestone no. 15) and τ decays [205] (milestone no. 16) were studied in a model-independent way. We studied both the impact of the recent measurements of $B_s-\bar{B}_s$ mixing and $D-\bar{D}$ mixing and the implications of a potential tension in global unitarity triangle fits on the supersymmetric parameter space [206–208] (milestones no. 14,15 and 17). In [209] the boundary condition of a particular supersymmetric GUT model was considered (milestone no. 17). The papers [210–213] comprise detailed studies of quark and lepton flavour physics in the Littlest Higgs Model with T parity (milestone no. 18). Our node is also involved in experimental activity at e^+e^- colliders and the CDF detector of the Fermilab Tevatron: Currently an improved determination of the hadronic contribution to the anomalous magnetic moment of the muon ($g_\mu - 2$) and of the running fine structure constant at the Z^0 pole $\alpha_{\text{em}}(M_Z^2)$ are achieved using new hadronic cross section data obtained at the e^+e^- particle factories DAΦNE (experiment KLOE) and PEP-II (experiment BaBar) via the Radiative Return method [101, 214–216]. Our CDF group measured the width difference among the two mass

eigenstates of the B_s meson.

Second Year: The focus of the node has remained on the milestones no. 3,5,10 and 13-18, with the two major fields of precision physics within the Standard Model (SM) and the search for signals of physics beyond the SM. We computed electroweak corrections to the rare Kaon decay $K^+ \rightarrow \pi^+ \nu \bar{\nu}$, which allows to probe short-distance physics with very small hadronic uncertainties, in [225]. In [116] we revisited the determination of α_s from hadronic τ decays, with a special emphasis on the question of higher-order perturbative corrections and different possibilities of resumming the perturbative series with the renormalisation group: fixed-order (FOPT) vs. contour-improved perturbation theory (CIPT). Refs. [226–229] have addressed the static quark potential at the three-loop level, hadronic τ decays in the fourth order of α_s and the QCD sum rule for the Kaon distribution amplitude. Within non-relativistic QCD top-quark pair production and the toponium and bottomonium wave-functions at the origin have been calculated at NNNLO in [230, 231]. A new activity was the combination of perturbative methods in continuum QCD with lattice gauge theory to determine the charm quark mass from current-current correlators and the B meson mass splitting [232, 233]. We studied radiative B decays in [234, 235], focusing on the calculation of logarithmically enhanced electromagnetic corrections to the decay rate and forward backward asymmetry of the inclusive rare decay $\bar{B} \rightarrow X_s \ell^+ \ell^-$. Using soft-collinear factorization and the heavy quark mass expansion the structure of heavy quark jets was analyzed in [236] at next-to-leading order for e^+e^- annihilation to determine the top quark mass scheme dependence in top mass reconstruction. A new approach to quantify infrared renormalons based on a novel infrared renormalization group evolution equation was given in [237]. The approach allows to relate short-distance heavy quark masses extracted from meson decays, quarkonia and heavy quark jets to the $\overline{\text{MS}}$ mass without large logarithmic terms. In [238] the two-loop soft corrections to the e^+e^- thrust and heavy jet mass event-shape distributions were computed. The complete NLO light-cone QCD sum rule analysis for $B \rightarrow \pi$ form factors has been re-investigated and updated in [239], and the work on semileptonic $b \rightarrow c$ has been continued [240, 241]. The structure of light cone distribution amplitudes has been investigated in a nonrelativistic model in [242].

Our research on physics beyond the SM has addressed studies in the Minimal Supersymmetric Standard Model (MSSM) (with and without grand unification), warped extra dimensions and the Littlest Higgs Model with T parity and has further included model-independent analyses. The MSSM Higgs sector was addressed in [243–245] analysing different observables in B physics. We studied the viability of Yukawa unification within general SUSY GUTs and found such unification to be challenged by the experimental data on FCNC processes [209, 246]. Detailed analyses of particle-antiparticle mixing, rare K and B decays and of lepton flavour violation within models with one warped extra dimension are in progress together with a more general analysis of the flavour structure of these models. We studied the impact of warped extradimensional scenarios on TeV scale physics, for the first time in the literature formulating the flavour structure of such a model. We performed a full analysis of flavour physics in that particular model, in particular of $\Delta F = 1$ and $\Delta F = 2$ processes in the quark sector. A CKM-fitter-based model-independent analysis of possible new physics effects in $b \rightarrow s$ transitions has been performed in [247]. Minimal Flavour Violation and a study of the corresponding flavour symmetries has been performed in [248] for quarks and in [249] for leptons. Model-independent aspects of

particle-antiparticle mixing are discussed in [250, 251].

The experimental activity of the node in the BaBar experiment has addressed initial-state radiation events [252–254], the production of $\rho^+\rho^-$ pairs [255] and the decay $\Upsilon(3S)^- \rightarrow \gamma\eta_b$ [256]. The group continues to analyse KLOE data [257–259].

Node No. 5: Italy (Istituto Nazionale di Fisica Nucleare [INFN])

First Year: The highlights of the research activity of the node include: **I.** The production of extensive unquenched simulations of $N_f = 2$ twisted-mass Wilson fermions (with several values of the light quark masses) with the purpose of extracting continuum hadronic quantities extrapolated at the physical pion mass (milestones n. 8,9,11). Phenomenological applications of these simulations relevant for Kaon, charm and B-physics have also been started. This research is carried out by members of the node within the ETM Collaboration [14, 15, 271]. **II.** Determination of the CKM matrix elements, analysis of rare B and K decays and of $D-\bar{D}$ mixing in the SM, in motivated new physics models (such as low-energy supersymmetry) and in general model-independent approaches [30, 208, 272–275] (milestones n. 14-18). **III.** Analysis of recent data collected by KLOE and other low-energy experiments on semileptonic K decays. Evaluation of combined averages for all the quantities relevant to the extraction of V_{us} and corresponding global estimate of this fundamental SM parameter [276, 277] (milestones n. 7-8). **IV.** Development of effective field theories of QCD with applications to the physics of heavy meson decays, heavy quarkonium, and quark-gluon plasma. Analysis of the newly observed mesons with open and hidden charm and investigations in heavy meson spectroscopy [89, 104, 278, 279] (milestones n. 3,4,5). **V.** Four-quark interpretation of the newly observed heavy mesons and corresponding development of a new spectroscopy [280–282] (milestone n. 4). **VI.** Improved determination of the hadronic contribution to $(g - 2)_\mu$ [215] (milestone n. 6).

Second Year: The highlights of the research activity of the node include: **I.** Extraction of physical quantities from the unquenched simulations of $N_f = 2$ twisted-mass Wilson fermions within the ETM Collaboration [52, 290–293] (milestones n. 8,9,11). Several physical quantities, in the pseudo-scalar and vector-meson sector have been computed with unquenched up and down quark masses, corresponding to pion masses in a range from 250 to 550 MeV. Most importantly, the results have been obtained with statistical errors at the percent level while keeping lattice artifacts and finite volume effects well under control. Moreover, the ETM Collaboration has started exploratory simulations with four (up, down, strange and charm) unquenched flavours. **II.** Model-independent phenomenological analyses of new-physics effects in flavour physics [45, 167, 294, 295], including in particular B_s -mixing [296], $B \rightarrow D\tau\nu$ decays [297], and global analysis of $\Delta F = 1$ processes in the MFV framework [298] (milestones n. 14-18). Related studies about the physics case of a Super Flavour Factory [299]. **III.** Analysis of recent data collected by KLOE and other low-energy experiments on semileptonic K decays [300]. Evaluation of combined averages for all the quantities relevant to perform stringent tests of the SM, such as the CKM-unitarity test and tests of lepton-flavour universality [301] (milestones n. 7-8). **IV.** Development of effective field theories of QCD with applications to the physics of heavy meson decays, heavy quarkonium [302–306] and quark-gluon plasma (milestones n. 3,4,5). New determination of V_{ub} from semileptonic B decays [307]. Study of implications of the ADS/CFT

correspondence for light meson dynamics [308, 309] **V.** Developments of a new effective theory to describe the light scalar-mesons [310] and interpretation of the newly observed heavy mesons in terms of four-quark states [311, 312] (milestone n. 4).

Node No. 6: Poland (University of Silesia [Univ. of Silesia])

First Year: The activity of the Polish node concentrated mainly on the realisation of the milestones number 6,10,12,14,15 and 16. Two meetings of the working group 6 were co-organised. The meetings gathered not only physicists from FLAVIANet, but a wider group working actively in the field covered by working group 6. Calculation of the radiative corrections relevant for luminosity monitoring at meson factories and construction of necessary software tools was a subject of papers [335–337] (milestone no. 12). In [336] Mathematica program for automatic construction of Mellin-Barnes representations of planar Feynman integrals is given. It builds one loop tensorial and up to second rank multi-loop tensorial integrals, and multi-loop scalar integrals. In [335] some details concerning summations of simple QED residues coming from Mellin-Barnes representations are given. In [337] two loop radiative corrections to massive Bhabha scattering in QED for heavy fermions are calculated. They include calculation of box diagrams in approximation $m_e^2 \ll m_f^2 \ll s, t, u$. Various aspects of the B - decays were covered in papers [338–341] (milestones no. 10,14,15). The article [338] is devoted to presenting and describing the first estimate of the $B \rightarrow X_s \gamma$ branching ratio that includes $O(\alpha_s^2)$ QCD corrections. The article [339] presents the calculation of 3-loop contributions from the 4-quark operators to the $b \rightarrow s \gamma$ transition in the limit of heavy charm quark ($m_c \gg m_b/2$). These results together with the BLM approximation form the basis for the interpolation in m_c and a detailed phenomenological analysis that was summarised in [338]. The article [340] contains a description and results of the evaluation of 4-loop anomalous dimensions for renormalisation of the Wilson coefficients in the effective theory that arises from the Standard Model after decoupling the heavy electroweak bosons and the top quark. This is the final anomalous dimension computation that was needed for the $O(\alpha_s^2)$ QCD corrections to $B \rightarrow X_s \gamma$. The paper [341] summarises the results of [338–340]. Papers [192, 342] are devoted to studies based on the radiative return method (milestones no. 6,12). In [192] it was shown how to extract baryon form factors using radiative return method and information about baryon decay products, while in [342] a short review of the research program based on the radiative return method was presented. In [343] the status of the TAUOLA and PHOTOS programs was presented with emphasis on multi-pion τ decays and radiative corrections to B - decays (milestones no. 10,12,16).

Second Year: The activity of the Polish node concentrated mainly on the realization of the milestones number 1, 3, 4, 6, 7, 10, 12, 14, 15, 16, 17 and 18. One meeting of the working group 6 was co-organized. The meeting gathered not only physicists from FLAVIANet, but a wider group working actively in the field covered by working group 6.

Calculation of the radiative corrections relevant for luminosity monitoring at meson factories and construction of necessary software tools was a subject of papers [344–349] (milestone no. 12). In [344, 345, 348] the complete virtual QED contributions to Bhabha scattering due to vacuum polarization effects in photon propagation were derived. The result was applied to hadronic corrections and to heavy lepton and top quark loop insertions. The first complete estimate of

their net numerical effects for both small and large angle scattering at typical beam energies of meson factories, LEP, and the ILC was given. The determination of the infrared singularities of massive one-loop 5-point functions with Mellin-Barnes (MB) representations was discussed in [346,347]. Analytical reductions of one-loop tensor integrals with 5 and 6 legs to scalar master integrals was performed in [349]. The reductions are expressed in a compact form, and have been implemented in a Mathematica package called `hexagon.m`.

Associated production of the top quark pair and light Higgs boson at the future International Linear Collider was discussed in [350,351] (milestones no. 17,18). The background effects have been shown by comparing cross sections of three reactions, which represent different detection channels of $e^+e^- \rightarrow t\bar{t}H$, calculated with the complete sets of the lowest order Feynman diagrams with the corresponding signal cross sections calculated with the diagrams of associated production and decay of off mass shell top quark pair and Higgs boson only.

The current status of `carlomat`, a program for automatic computation of the lowest order cross sections of multi-particle reactions was presented in [352] (milestones no. 12,17,18). The results of comparisons with other multipurpose Monte Carlo programs were shown.

Mass range of the charged Higgs boson in the 2HDM with explicit and spontaneous CP violation was discussed in [353] (milestone no. 18). It was shown that it may help to distinguish between those types of the CP violation. Constraints on M_H^+ in the CP conserving 2HDM(II) were shown. The physics case of the International Linear Collider was presented in [354] (milestone no. 18). In [355] the introduction to the conference Photon 2007, devoted to the photon interaction with hadrons was presented (milestones no. 6,18). Open problems relevant for a search for a new physics were discussed, among them hadronic contribution to $g-2$ for muon.

Charge asymmetry in processes $\gamma\gamma \rightarrow \ell + \ell^- + \nu's$ was considered in [356] (milestone no. 18). Effects sensitive to New Physics were found.

The report [357] presents flavour related issues in the production and decays of heavy states at LHC, both from the experimental side and from the theoretical side (milestones no. 10,14,15). It contains a review of top quark physics, and a discussion of flavour aspects of several extensions of the Standard Model, such as supersymmetry, little Higgs model or models with extra dimensions. This includes discovery aspects as well as measurement of several properties of these heavy states.

The article [358] presents a study of the anomalous Wtb coupling effect on the $B \rightarrow X_s \gamma$ branching ratio (milestones no. 3,10,14,15). The considered couplings are introduced as parts of gauge-invariant dimension-six operators that are built out of the Standard Model fields only. Bounds on the corresponding Wilson coefficients are derived.

The present status of the physics program, which led to the development of the Monte Carlo event generator PHOKHARA was described in [359,360] (milestones no. 1,4,6,7,12,16). In [360] an improved description of four-pion production in electron-positron annihilation and in tau lepton decays is presented. Predicting tau decay distributions from e^+e^- data and comparing these predictions with ALEPH and CLEO results, the validity of isospin symmetry is confirmed within the present experimental errors. Special emphasis is put on the predictions for $\omega(\rightarrow \pi^+\pi^-\pi^0)\pi$ in e^+e^- annihilation and in tau decay.

In [361] the program BOKASUN for fast and precise evaluation of the Master Integrals of the two-loop self-mass sunrise diagram for arbitrary values of the internal masses and the external

four-momentum was presented (milestone no. 12).

The calculational precision of $e^+e^- \rightarrow \tau^+\tau^-$ and $e^+e^- \rightarrow \mu^+\mu^-$ production cross-sections in electron-positron annihilations at $\sqrt{s} = 10.58$ GeV was studied in [362] for the KKMC Monte Carlo simulation program (milestones no. 12,16).

A review the main ideas and constraints which shaped the program PHOTOS of today and enabled it widespread use was presented in [363] (milestones no. 7, 10, 12, 16). The importance of aspects related to reliability of program results: event record contents and implementation of channel specific matrix elements were emphasized.

Node No. 7: Nordic (Lund University [ULUND])

First Year: The research of the node addressed milestones no. 1–3,6-7,10,14,15, which span the topics of working groups 1,2,4 and 5.

In [364–368] we studied various aspects of soft effects in B and D decays. This included the effects of chiral loops and nonfactorizable effects in several decays, this work took place in WG2 (milestones no. 14 and 15).

The work on the light-by-light contribution to the muon anomalous magnetic moment has been reviewed [105, 106] and the various calculations recalculated numerically and compared in a new way [105] (milestone no. 6). A lot of work has been devoted to NNLO calculations in Chiral Perturbation Theory. These calculations have been reviewed in [369] and have also been extended considerably during the reporting period. A bit of work was done for finite volume corrections at two-loop order [370, 371], (WG5 and milestone no 2). A lot of effort has been devoted to masses and decay constants in partially quenched Chiral Perturbation Theory as well as on how to evaluate here the eta mass and electromagnetic effects [372–375] This research has contributed to milestones and WG4 and WG5, milestone no. 2 and 3. An overall review of ChPT in the meson sector and how this is relevant for lattice QCD was also done [376]. In particular the quark mass dependence of $f_+(0)$ and meson masses has been elucidated here. Relevant for WG 1 and 5, milestones 2 and 7. In the same area preliminary results for isospin breaking at two-loop order for this quantity have been done [377]. Finally, in a major step for the study of quark masses and meson-meson interaction the calculation of $\eta \rightarrow 3\pi$ at NNLO was done and first numerical results obtained [378].

In the Helsinki group the analysis of coupling constants of the πN interaction has continued [379, 380] relevant for milestone no. 2. The Helsinki lattice group has concentrated on studying the B_S meson energy spectrum for S -, P -, D - and F -waves and also their first radial excitations. Particular attention has been paid to the P - and D -wave spin-orbit splitting [381]. To check the stability of the results several different sets of lattice configurations were used. In addition increasing amounts of smearing were introduced. This work contributes to milestone no. 4

Second Year: In this period we have contributed to milestones 1,2,7,8,9,10,11,13 which span the working groups 1,2,4 and 5. The publications [368, 376–379, 384] which appeared in the first period as preprints have now been published.

The new work in this period is in several main areas. First we have been involved in improving the theoretical predictions for $K_{\ell 3}$ decays and their relevance for the determination of the CKM element V_{us} by computing the isospin breaking correction to NNLO in Chiral Perturbation The-

ory [388] and by participating in the overall discussion in the kaon working group [301]. It was found that the total effect of isospin breaking at NNLO is small since there were two compensating effects, a larger value of $m_u - m_d$ is needed at NNLO but the NNLO in $K_{\ell 3}$ lowers the isospin breaking correction. Effects on the Callan-Treiman point at NNLO were also discussed. The second area has been in working in effects relevant in nonleptonic weak decays. A new type of Penguin effect was studied in $K \rightarrow \pi\pi$ decays [389] This offshell chromomagnetic dipole increases the effect of Q_6 in this decay by about 5%.

The form-factors in semileptonic B_q to D_q decays have been studied as regards to the chiral corrections coming from chiral loops. These corrections were calculated for $1/m_Q$ suppressed operators and an extraction procedure from lattice QCD results suggested [318].

The last main area studied was the purely hadronic one where results at NNLO in ChPT for $\eta \rightarrow 3\pi$ were discussed [390] and the progress in the new dispersion analysis of πN scattering was presented in [391, 392]. This is part of an update of the old Karlsruhe-Helsinki analysis of the then existing πN data set.

Node No. 8: France (Centre National de la Recherche Scientifique [CNRS])

First Year: The research of the node addressed mainly milestones 1,2,4,7,8;10,11,14,15,19

In the strong sector of the Standard Model, a framework (Resummed Chiral Perturbation Theory) has been developed to cope with potentially significant differences between the chiral limits of two and three massless flavours and applied to the current data on low-energy $\pi\pi$ and πK scatterings [393, 394] (milestone 1). In order to determine strong low-energy coupling constants of the strong chiral Lagrangian within Resonance Chiral Theory, the two current approaches for spin one particles (vector and antisymmetric tensor) have been related to provide a more general class of effective Lagrangians [395, 396]. Two-loop three-flavour chiral perturbation theory has been investigated, with a determination of the η' contributions to the chiral low-energy constants, and a simplified representation for the pion mass [397] (milestone 2). Several aspects of hadron spectroscopy have been studied (milestone 4). An integral equation for the quark gauge invariant two-point Green's function was studied and solved in a well-defined approximation in order to yield the quarkonium spectrum [398]. The width of several η_b excitations into two photons has been determined using heavy-quark spin-symmetry, leading to model-independent relations [399]. In addition, hadron spectroscopy was considered in relation with lattice simulations. Baryon wave functions and diquark correlations were studied on the lattice in both the Coulomb and Landau gauge [400, 401]. The Δ -resonance parameters were proved to be obtainable from current lattice simulations [402]. Results were also obtained on the infrared behaviour of the gluon and ghost propagators in the Landau gauge, contradicting usual assumptions [403, 404].

In the weak sector of the Standard Model, an ongoing collaboration with DESY-Zeuthen node has provided lattice estimates for the Standard Model matrix elements relevant for neutral kaon mixing and those of electroweak penguin operators which give the dominant $\Delta I = 3/2$ contribution to direct CP violation in $K \rightarrow \pi\pi$ [400, 405]. Together with Univ. of Rome, an estimate of the $B \rightarrow K^*\gamma$ form factor has been obtained from quenched lattice simulations [406] (milestones 9 and 14). Several aspects of nonleptonic and semileptonic B decays have been covered (milestones 10 and 11). The question of isospin breaking in the yield of heavy meson pairs in

e^+e^- annihilation near threshold has been studied for $B-\bar{B}$, $D-\bar{D}$ and $K-\bar{K}$ [407]. The problem of the Isgur-Wise functions to orbitally excited B mesons in B semileptonic decay to charm has been carefully formulated [408,409]. Within a relativistic quark model, a relation has been found between the Light Cone Distribution Amplitudes and the Shape function of B mesons [410]. The parameters describing $B_{d,s}-\bar{B}_{d,s}$ mixing has been studied in and beyond the Standard Model, including both chiral corrections and the lowest-lying scalar heavy-light excitations, with significant implications for lattice extrapolations [411]. For penguin-mediated B -decays, in particular into $K^{(*)}\bar{K}^{(*)}$, the increasing information on B_d decay rates and CP-asymmetries can be used together with QCD factorisation and flavour symmetry to provide sharp SM predictions for B_s decays [88,412]. A critical analysis of Bayesian statistics has been performed for the extraction of the CKM angle α , showing by both explicit calculations and frequentist approach that Bayesian statistics may lead to unphysical conclusions [413] (milestone 13).

Beyond the Standard Model, the signals of alternatives to supersymmetric models have been studied for different flavour processes (milestone 18). The $\Delta S = 2$ matrix elements required to study neutral kaon mixing in extensions of the standard model were calculated on the lattice [400,405]. The implications of a single Universal Extra Dimension were worked out for FCNC B_s and Λ_b transitions [274] and rare $B \rightarrow X_s\tau^+\tau^-$ and $B \rightarrow K^{(*)}\tau^+\tau^-$ decays [414]. The implications of non-standard couplings of fermions to W and Z were analysed within the framework of effective theories, with a complete NLO analysis of experimental constraints on these modified couplings [415,416] and a particular emphasis on the recent results obtained on $K_{\ell 3}$ decays based on a dispersive representation [417–419]. Constraints on new-physics contributions for $\Delta F = 2$ contributions were extracted from the available data within a Bayesian approach [273] (milestone 19).

Several reviews have been written, some on the complementarity between Chiral Perturbation Theory and lattice simulations [420,421], others on $(g-2)_\mu$ [422,423].

Second Year: The research of the node addressed milestones 2,4,5,7,10,11,14,15,16,19.

In the strong sector of the SM, the dispersive representation of scalar and vector $K\pi$ form factors has been investigated together with the KTeV collaboration exploiting data on $K_L \rightarrow \pi^\pm \mu^\mp \nu$ decays. The value of the scalar form factor at the Callan-Treiman point provides a stringent test of the Standard Model and allows for a comparison with the lattice QCD calculations. The dispersive representation of the scalar form factor has been matched to its expression at two loops in Chiral Perturbation Theory, providing further tests of this representation [424]. The vector form-factor $f_+^{K\pi}(t)$ was reconstructed thanks to analyticity, detailed experimental inputs on πK scattering in the P -wave and asymptotic constraints from QCD. The result was compared to new data on $\tau \rightarrow K\pi\nu_\tau$ decays [425]. Recent experimental and theoretical improvement on hadronic τ decays have allowed a reassessment of the value of $\alpha_s(M_\tau)$ using Finite-Energy Sum Rules, with a detailed comparison of the two main approach to treat the perturbative series for the Adler function [426]. The relations between dispersion relations and Chiral Perturbation Theory have been investigated [427] and properties of the η -meson (decay constant, $\eta\pi$ scattering) have been studied in the framework of Resummed Chiral Perturbation Theory [428,429]. A study of the properties of resonances with lattice simulations has been proposed, based on the finite-volume dependence of the energy levels [430,431]. The integral equation for the two-point quark gauge invariant Green function has been studied in the more specific case of two-dimensional QCD in

the large-N limit, allowing a numerical solution for the corresponding spectral functions [432]. Lattice computations were performed to extract moments of meson distribution functions [433] and nucleon and Δ masses [434] with $N_f = 2$ twisted mass fermions.

In the electroweak sector of SM, preliminary lattice results on the D -meson decay constant and $D \rightarrow \pi \ell \nu$ form factors with $N_f=2$ Wilson quarks [435]. The experimental data on $D \rightarrow K \ell \nu$ were exploited to extract the $DD_s^* K$ coupling and to test various extrapolation scheme of form factors beyond the range experimentally accessible [436]. The QCD light-cone sum rules for $B \rightarrow \pi$ form factors has been reconsidered and updated with the inclusion of gluon radiative corrections to the twist-2 and twist-3 terms and updated input values [239]. The chiral corrections to the matrix elements of the $\Delta B = 0$ four-quark operators, relevant to the studies of the ratios of lifetimes of heavy-light mesons as well as to the power corrections to the inclusive semileptonic heavy-to-light decays, have been computed to help lattice extrapolations of these quantities [319]. $B \rightarrow K \eta^{(\prime)}$ decays have been studied within QCD factorisation, using the nonet symmetry to determine matrix elements of pseudoscalar densities for pseudoscalar mesons [437]. $B \rightarrow K \eta'$ predicted branching ratios are 20-30% lower than experiment, a discrepancy solved if the $B \rightarrow \eta'$ form factor is increased by 40% with respect to the value according to the nonet symmetry. The radiative $B \rightarrow K \eta^{(\prime)} \gamma$ decays have also been studied in corners of the Dalitz plot where K or η mesons are soft where heavy meson chiral perturbation theory applies, with a good agreement with experimentally measured partially integrated rates [438].

Beyond the Standard Model, a Bayesian analysis was performed to combine the available experimental information on B_s mixing, including the tagged analyses of $B_s \rightarrow J/\Psi \phi$ by the CDF and D0 collaborations. The resulting discrepancy with respect to Standard Model expectation is a hint of New Physics disfavouring Minimal Flavour Violation [296].

Node No. 9: Switzerland (Universität Bern [UBERN])

First Year: The research of the node addressed milestones no. 1,2,3,5,14,15 and 18, which span the topics of all working groups. Experience with the Domain Decomposition Hybrid Monte Carlo (DD-HMC) algorithm was extended over a wide range of parameter values [456, 457]. Lattices of sizes 48×24^3 and 64×32^3 , with lattice spacings from 0.05 to 0.08 fm, were simulated at sea-quark masses as light as 20–25 MeV, using the Wilson (and Wilson non-perturbative improved) quark actions. Masses and pseudoscalar constants of the light mesons were computed and a dependence on the light-quark mass very much as predicted by chiral perturbation theory was obtained (milestone 2 and 3).

In [8] a general method to perform the matching of chiral $SU(2) \times SU(2)$ to $SU(3) \times SU(3)$ at two-loop order was developed and applied to the low energy constants at order p^4 . This will be of relevance for the lattice community (milestone 2).

An isospin breaking part in the decay K_{e4} which was overlooked so far has been identified. It brings theory and K_{e4} experiment performed by the NA48/2 collaboration at CERN into agreement (milestone 1).

The NA48/2 members of our node have: made an analysis of the charged kaon data collected in 2003 and 2004; accumulated a large $O(10^5)$ sample of $K \rightarrow e \nu$ events; performed R&D work towards the realisation of an experiment to measure $K^+ \rightarrow \pi^+ \nu \bar{\nu}$ at the SPS.

The NNLL matrix elements of the dipole operator in the $\bar{B} \rightarrow X_s \gamma$ decay have been calculated. This, combined with other calculations at NNLL precision, led to the first NNLL prediction of the $\bar{B} \rightarrow X_s \gamma$ branching ratio which increased the high sensitivity of this observable to new physics significantly [338] (milestone 15). In [458] the charm quark mass dependence of the matrix element associated with the electromagnetic dipole operator was calculated. This was a missing ingredient for the NNLO branching ratio for $B \rightarrow X_s \gamma$. NNLO corrections to the hard-scattering kernels entering the QCD factorization formula for $B \rightarrow K^* \gamma$ were also computed [459], deriving complete results for the dipole operators O_7 and O_8 , and partial results for O_1 valid in the large β_0 limit. Large perturbative logarithms in the hard-scattering kernels were identified and resummed using soft-collinear effective theory. (Milestone 14 and 15).

The physics case of a Super Flavour Factory has been discussed in [29].

The supersymmetric large $\tan \beta$ corrections to $\Delta M_{d,s}$ and $B_{d,s} \rightarrow \mu^+ \mu^-$ have been revisited [460] (milestone 14), and a bound on minimal universal extra dimensions from $B \rightarrow X_s \gamma$ derived [461] (milestone 18). In [462] it has been pointed out that the precision measurements of the $Z \rightarrow b\bar{b}$ pseudo observables imply that in models with minimal-flavor-violation the sign of the flavor-changing Z -penguin amplitude is identical to the one present in the standard model.

The estimation of the rare K -decay matrix elements from $K_{\ell 3}$ experimental data is extended beyond leading order in Chiral Perturbation Theory and the uncertainties on the $K^+ \rightarrow \pi^+ \nu \bar{\nu}$ and $K_L \rightarrow \pi^0 \nu \bar{\nu}$ matrix elements are reduced by a factor of about 7 and 4, respectively, and similarly for the direct CP-violating contribution to $K_L \rightarrow \pi^0 \ell^+ \ell^-$ [463] (milestone 14).

Second Year: The research of the node addressed milestones no. 1,2,3,6,7,12,13,14,15 which span the topics of all working groups. In [459] the exclusive rare decays $B \rightarrow V \gamma$ have been analyzed. In particular the hard-scattering kernels of O_7 and O_8 were calculated at NNLO, approximations for the O_1 contribution were included and phenomenological consequences were discussed. Virtual and Bremsstrahlung fermionic corrections to the (O_7, O_8) –interference which contribute to the branching ratio for $B \rightarrow X_s \gamma$ at NNLL level were analyzed in [472].

Electromagnetic logarithmic-enhanced corrections were analyzed and a new analysis of the theoretical uncertainties in all $\bar{B} \rightarrow X_s \ell^+ \ell^-$ observables was presented [234] – the role of collinear photons in experiment and theory was clarified [473]. SCET (‘soft-collinear effective theory’) light-cone sum rules have been developed and factorization for $B \rightarrow \pi$ form factors has been discussed in this framework [324]. Bounds on flavour-violating gluino and squark decays derived from the present flavour data have been analyzed [357]. New observables in the exclusive decay $\bar{B} \rightarrow \bar{K}^{*0} \ell^+ \ell^-$ in which any form-factor dependence cancels out at leading order level have been designed, next-to-leading corrections in SCET and an extensive Monte-Carlo analysis for LHCb were worked out in [119]. A model-independent analysis of minimal flavour violation constraints and relations have been performed in [474].

Using the published KTeV samples of K_{Le3} and $K_{L\mu 3}$ decays, an analysis of the scalar and vector form factors based on the dispersive parameterization is performed. The correlations between the two form factors are studied in detail [301, 424].

The evaluation of the radiative corrections to all four $K \rightarrow 3\pi$ decays in the framework of NR effective field theory has been finalized [475]. The code has already be implemented by the NA48/2 collaboration in their data analysis.

Supersymmetric extensions of the standard model with minimal flavour violation (MFV) have

been studied. In [476] it has been shown that requiring MFV is enough to protect the proton from decaying, without having to introduce the R-parity symmetry. In [477] the running of these models has been analyzed in detail and it has been shown that the MFV parameters display a quasi fixed-point behaviour.

The NA48/2 members of our node have: i) completed the data analysis of the 2003-2004 NA48/2 data samples; ii) reprocessed the 2007 $K \rightarrow e\nu(\gamma)$ prepared for the physics analysis; iii) made a prototype construction and beam test of new detectors for the the realisation of an experiment to measure $K^+ \rightarrow \pi^+\nu\bar{\nu}$ at the SPS.

Node No. 10: Austria (Universität Wien [UNIWIEN])

First Year: The research of the node was related to the topics of working groups no. 1,2 and 4. The work of the Viennese group of this node addressed milestones no. 1,2,7, and 8: In [478] we have completed the analysis of meson resonance contributions to chiral low-energy constants of order p^4 by including all quark-antiquark bound states with orbital angular momentum ≤ 1 . In [7] it was shown that the number of previously known terms in the mesonic chiral Lagrangian of order p^6 in the two-flavour sector can be reduced by at least one from 57 to 56 by providing an explicit relation among the operators. The progress in determining coupling constants of mesonic chiral Lagrangians was reviewed in [479]. A discussion of isospin violating effects in the scalar form factors of $K_{\ell 3}$ decays and a detailed numerical analysis of electromagnetic contributions to $K_{\mu 3}$ decays have nearly been completed. The papers of the Slovenian branch of this node were related to milestones no. 10,11,13,14 and 15: Motivated by recent experimental results on charm physics, the implications of the updated constraints on new physics in rare charm meson decays have been investigated [480]. In [366] we have calculated chiral loop corrections for the weak decays of B meson to positive and negative parity charmed mesons within a framework which combines heavy quark and chiral symmetries. The impact of the lowest-lying positive parity heavy mesons on the determination of the Isgur-Wise functions was also investigated. A review on D -meson physics was published in [481] and recently a PhD-thesis on the role of resonances in heavy meson processes within the standard model and beyond [482] was finished. Using soft-collinear effective theory, all semi-inclusive hadronic $B \rightarrow XM$ decays (an energetic light meson M recoils against an inclusive jet X) near the endpoint were described at leading order in $1/m_b$ in [483]. The present status of the determination of unitarity triangle angles was reviewed in [484, 485]. Possibilities of probing minimal flavour violation at the LHC were discussed in [486].

Second Year: In the second year, the research of the node was related to the topics of working groups no. 1,2,4,5.

The work of the Viennese group of this node addressed milestones no. 1,2,7: Using chiral perturbation theory, large N_c estimates for the determination of low-energy couplings and dispersive methods, we have discussed the standard model predictions for the scalar form factors of $K_{\ell 3}$ decays [487]. Our analysis includes a discussion of isospin violating effects of strong and electromagnetic origin. The radiative corrections to all $K_{\ell 3}$ modes to leading non-trivial order in chiral effective field theory have been calculated [488], working with a fully inclusive prescription of real photon emission. New results for the $K_{\mu 3}$ modes were obtained and previous results

on the K_{e3} modes were updated, providing an important theoretical input for the extraction of the CKM matrix element V_{us} from $K_{\ell 3}$ decays. A paper on the dispersive approach to chiral perturbation theory has recently been completed [427]. These methods are presently applied in an investigation of cusp effects in $K \rightarrow 3\pi$ decays.

The papers of the Slovenian part of this node were related to milestones no. 4,11,13,14,15,18,19: The chiral corrections to the matrix elements of the $\Delta B = 0$ four-quark operators which are relevant to the studies of the ratios of lifetimes of heavy-light mesons as well as to the power corrections to the inclusive semileptonic heavy-to-light decays were determined in [319]. The Dalitz plots of the decays $B \rightarrow \eta K \gamma$ and $B \rightarrow \eta' K \gamma$ were investigated in [438], using the combined heavy meson, large energy, and chiral Lagrangian theories. Motivated by the possible sensitivity to the presence of new physics in $B_q \rightarrow D_q \tau \nu$ decays, we have investigated the effects of chiral corrections to the relevant (scalar) form factor [318]. The explicit chiral behaviour of the computed chiral corrections can be used to guide future lattice computations in approaching the physical regime for the light quark masses. In [489], a constraint on the CKM quark mixing parameters $\bar{\rho}$ and $\bar{\eta}$ was obtained from $B \rightarrow K^+ \pi$. In [320] we investigate the Yukawa sector for up-like quarks in Lee's version of the littlest Higgs model. We derive general quark mass and mixing formulae and study leading order contributions due to non-zero light quark masses. Relying on the unitarity of the generalized quark mixing matrix we obtain corrections to the CKM matrix elements. In this model, flavour changing neutral currents appear at the tree level. Predictions for x_D , $D \rightarrow \mu^+ \mu^-$ and the $t \rightarrow c(u) Z$ transitions are discussed. A detailed review of the potential of a Super Flavour Factory (SFF) for searches of new physics was presented in [490]. The SFF is envisioned to be a crucial tool for essential studies of flavour physics in the LHC era.

Node No. 11: Germany–North (Stiftung Deutsches Elektronen Synchrotron [DESY])

First Year: The research of the node has largely concentrated on working groups 4 and 5 with influence on working groups 1,2,3. Work has been carried out to reach milestones no. 2–4, 7–9, 11, 14–18.

Open questions in D-meson semileptonic decays have been discussed and the necessary steps needed to answer them have been identified [409]. The isospin and $SU(3)$ breaking, as well as electromagnetic interactions in the Chiral Perturbation Theory (ChPT) with the strange quark have been extensively studied [491–493] and very useful reviews on ChPT and hadronic atoms have been published [421, 494, 495]. Moreover, we propose an effective field theory framework for the extraction of the S -wave $\bar{K}N$ scattering lengths from the simultaneous analysis of the experimental data on kaonic hydrogen and kaonic deuterium spectra. The determination of mass and width of the Δ resonance from a computation of the energy spectrum in a finite volume by means of lattice QCD has been explored.

In relation to many milestones, lattice gauge theory formulation and methodology has to be refined as a major activity. In particular ChPT including lattice spacing effects has been studied [496–498], which is relevant for reaching milestones 2–4 and an automation of perturbation theory in the QCD-coupling on the lattice has been pursued [499] with a particular eye on the determination of α_s (milestone 3). Domain wall fermions were investigated perturbatively [500]

and numerically [501]. The twisted mass formulation of lattice QCD was investigated [271] and applied to extract light quark masses and strong low energy constants in the $N_f = 2$ theory [14, 15] (milestones 2,3). Also the determination of $|V_{us}|$ from leptonic Kaon decay rates was pursued (milestone 7). The non-perturbative renormalization of four-fermion operators for K-physics [502] and B-physics [503] provides a basis for future determinations of B-factors in the systems. In a preparation for many applications in B-physics, HQET on the lattice has been developed and refined [233, 503–508] and reviewed for a larger community [509]. Work on the non-perturbative renormalization [506] of spin-dependent heavy quark potentials and the computation of the bare potentials on the lattice [510] has provided input for WG3.

Second Year: The non-relativistic effective Lagrangian approach has been applied to study of $K_L \rightarrow 3\pi$ and $\eta \rightarrow 3\pi$ decays [519]. The possibility of extracting $\pi\pi$ scattering lengths from these decays has been investigated. The approach has been further extended to include electromagnetic effects in the charged as well as neutral kaon decays [475]. The treatment of unstable states and the extraction of phase shifts in lattice QCD have been studied by using effective field theory methods in a finite volume [430, 431, 515]. Nucleon-nucleon scattering at next-to-leading order in chiral EFT is analysed on the lattice. Using the same method, the properties of neutron matter close to the unitarity limit are worked out [520, 521].

The twisted mass formulation of lattice QCD was applied in [434] for the computation of the light baryon masses and to charmed mesons [522], while in [52] the simulation and analysis details of a prior publication [15] were given. In [523] new results concerning the spectrum of QCD with one quark flavor were presented; a summary was given in [524].

Variants of applying non-perturbative HQET on the lattice for precision B-physics have successfully been tested in quenched computations [162, 525, 526]. Preparations for their application with two flavours of dynamical fermions have been carried out [527, 528]. The renormalization and improvement of the light quark sector of the two flavour theory was investigated [529, 530]. Lattice spacing effects in pion scattering have been included in the chiral perturbation expansion [531]. Wilson fermion simulations with “nHYP smearing” have been applied in the epsilon regime [532] with a new reweighting technique to reach very small quark masses [533].

1.2 Assessment of the milestone tasks

In Annex I of the FLAVIANet contract we have forecast the completion of the milestone tasks no. 1,4,5,7,12,13,14 and 15 by the time of the midterm review, as indicated in Table 3. Here we assess our goals in a short summary.

Milestone no. 1 is the calculation of the low-energy meson-meson interaction. The theoretical methods used here are chiral perturbation theory and lattice gauge theory. In particular, there has been an intense activity triggered by new data from NA48/2 on $K_{\ell 4}$ and $K \rightarrow 3\pi$ decays. Our results are published in Refs. [1–7, 41, 94, 393, 394, 430, 431, 478, 515]. The work is topically related to milestone no. 2, the calculation of the low-energy constants in the chiral lagrangian, whose completion is foreseen for the end of the FLAVIANet funding period. Here the network structure of FLAVIANet has been proven fruitful, because it links the expertises of chiral perturbation theory and lattice gauge theory.

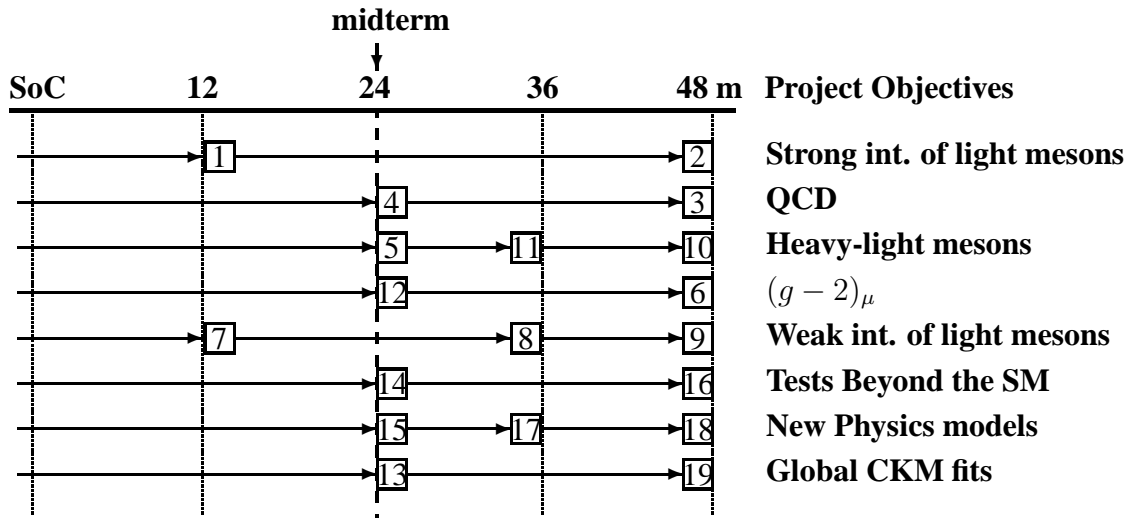


Table 3: FLAVIANet Schedule and Milestones [SoC=Start of Contract, m=months].

Milestone no. 4 addresses hadron spectroscopy; theoretical papers dealing with this topics are Refs. [145, 146, 149, 177, 178, 182, 280–282, 310–312, 325, 397, 402, 431, 444, 493, 513]. The ballpark of these papers were stimulated by the discoveries of new exotic hadrons involving heavy quarks at the B factories; and our theoretical work pursued the determination of their nature (i.e. molecules, hybrids or misidentified non-resonant effects). The experimental groups in FLAVIANet also contributed to this milestone, see e.g. Refs. [330, 334]. Another activity was the study of the spectroscopy of conventional light hadrons.

The topic of milestone no. 5 are light-cone distribution amplitudes, which are the key ingredient of QCD sum rule calculations. This calculational method addresses hadronic quantities in heavy-quark physics and is an alternative to lattice computations. Our contribution to this field in the reporting period are Refs. [131, 132, 137, 143, 150, 173, 193, 219, 239, 242]. With our results a higher precision can be reached in the analyses of rare B meson decays, which are interesting because of their sensitivity to new physics. In addition, distribution amplitudes for the Λ_b baryon have been studied.

Milestone no. 7 is the extraction of the element $|V_{us}|$ of the Cabibbo-Kobayashi-Maskawa (CKM) matrix from experimental data. There are three principal ways to achieve this, using three-body semi-leptonic Kaon decays ($K_{\ell 3}$), leptonic Kaon decays ($K_{\ell 2}$), or decays of the τ lepton. FLAVIANet contributed substantially to all three avenues with theoretical papers [20, 21, 23–27, 40, 47, 51, 128, 129, 169, 171, 172, 376, 377, 424, 425, 487, 488] and experimental analyses [276, 277, 300]. We stress that FLAVIANet provides an efficient organisational framework which combines the experimental and theoretical activities in this field which are summarised in the report of Ref. [301]. Most of our papers related to this milestone are concerned with $K_{\ell 3}$ decays, which involve the calculation of the $K \rightarrow \pi$ form factors with chiral perturbation theory and/or lattice gauge theory. Thanks to the FLAVIANet activity the form factor f_+ is now known at the two-loop

level in chiral perturbation theory including isospin breaking effects and is computed in lattice QCD with three dynamical quark flavours.

Milestone no. 12 concerns radiative corrections in Monte Carlo generators, which are needed for simulations of experiments. Here *FLAVIANet* continues projects started in its predecessor networks and steadily improves the Monte Carlo generators PHOKARA, PHOTOS and TAUOLA [33, 343, 359, 360, 363], works on radiative corrections relevant for luminosity monitoring at meson factories [337, 344, 345, 348], automatization of the calculations [335, 336, 352] and development of new methods [346, 347, 349, 361].

Milestone no. 13 addresses the global assessment of the CKM mechanism. This topic is an umbrella covering all activities in the sector of weak interaction physics. All weak decays involve CKM elements and the many redundant ways to constrain the CKM matrix are a powerful test of the Standard Model. With the start of the Large Hadron Collider it is possible that physics beyond the Standard Model will be discovered, so that milestone no. 13 will evolve into milestone no. 19 which deals with CKM fits in models of new physics. Since roughly 2/3 of the papers listed in Sect. 2 are related to milestone no. 13, their number is too numerous to be listed here. We stress that worldwide two major groups are concerned with global CKM fits, *CKMFitter* and *UTFit*, both having a strong participation of *FLAVIANet* nodes.

The topic of milestone no. 14 are rare K and B decays, which are an excellent field to search for new physics and to probe extensions of the Standard Model. Our work in this field addressed both a better theoretical prediction of the Standard Model background and analyses in concrete models like the Minimal Supersymmetric Standard Model [29, 119, 119, 167, 202, 209, 210, 225, 234, 234, 235, 245–247, 260, 261, 274, 338–340, 358, 414, 415, 460, 461, 463, 473, 490, 558]. An important rare decay is $B \rightarrow X_s \gamma$ and a joint activity of several *FLAVIANet* nodes was the completion of the calculation of the associated branching fraction to next-next-to-leading order in QCD. *FLAVIANet* experimental groups were involved in related measurements [97, 99, 332]. The NA48/2 members in *FLAVIANet* performed R&D work towards the realisation of an experiment to measure the important rare decay $K^+ \rightarrow \pi^+ \nu \bar{\nu}$ at the SPS. While we reached the goals envisaged for the *FLAVIANet* midterm review, we plan to continue to work on rare K and B decays in the future, especially when the precise data from the LHCb experiment will be available.

Milestone no. 15 addresses $b \rightarrow s$ transitions, which are loop-dominated in the Standard Model and therefore sensitive to new physics. Since radiative and (semi-)leptonic $b \rightarrow s$ transitions are covered above in milestone no. 14, we discuss the hadronic $b \rightarrow s$ transitions here, covered in Refs. [87, 88, 117, 118, 134, 195, 203, 204, 244, 247, 251, 263, 265, 273, 286, 296, 411, 412, 438, 489, 559, 560]. The interest in this topic has recently increased after the Tevatron experiments reported hints of a new CP-violating phase in $B_s - \bar{B}_s$ mixing.

FLAVIANet has also made progress towards the remaining milestones, whose completion is foreseen after 36 or 48 months since the start of the contract. This work is described in detail in the reports from the nodes of Sect. 1.1.

2 Publications

The FLAVIA*net* members wrote the scientific papers listed below during the reporting period. Only papers which are published or submitted for publication are listed. Publications unrelated to the topics mentioned in Annex I of the FLAVIA*net* contract are not included. Experimental papers are only listed if FLAVIA*net* members were involved in the presented analyses. We list joint publications involving several FLAVIA*net* nodes in Sect. 3.5.

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- [16] **NPLQCD** Collaboration, S. R. Beane *et al.*, *Hyperon nucleon scattering from fully-dynamical lattice QCD*, *Nucl. Phys.* **A794** (2007) 62–72, [hep-lat/0612026].
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3 Conferences, Workshops and General Networking

The FLAVIA*net* nodes have organised several events devoted to common research and scientific exchange. The major meetings were the *Euro-Flavour06* conference in Barcelona, which was the inaugural meeting of the network, and *Euro-Flavour07* in Orsay. These conferences are described in the following section. Sect. 3.3 summarises other conferences and workshops organised at one of the nodes, if they were totally or in part devoted to flavour physics. Sect. 3.4 is devoted to other conferences and workshops, at which results from FLAVIA*net* were presented. In Sect. 3.5 we summarise the individual networking activity related to research. Finally we justify changes to our original schedule.

3.1 Euro-Flavour 06

The conference *Euro-Flavour06* was the Inaugural Workshop of the European Flavour Physics Network FLAVIANet. It took place in Barcelona in Casa de Convalescencia from the 2nd to the 4th of November of 2006. The meeting was organized by M. Jamin and J. Matias, from node no. 2. The main topics of the meeting correspond to the subjects of the six working groups within FLAVIANet, namely:

- Kaon decays
- B-physics
- Tau-charm and quarkonia
- Analytic approaches to QCD
- Lattice methods
- Radiative return and Monte Carlo tools

There were a total of 77 participants (about one quarter of them were students) and 29 plenary talks. On Friday afternoon we organized six parallel sessions, one per each working group to discuss specific topics of each field. Most of these talks were presented by students and postdocs. Discussions in Kaon physics WG1 focused on the future of Kaon Physics at CERN and $K \rightarrow 3\pi$, B physics WG2 focused on the decays $B \rightarrow K^*\gamma$, $B \rightarrow \pi K$ and $B_s \rightarrow KK$, Tau-charm and quarkonium physics WG3 focused on the open problems in charm spectroscopy, determinations of V_{us} and m_s from hadronic τ decays, Analytic approaches to non-perturbative QCD (WG4) focused on D decays and resonance lagrangians, Lattice methods (WG5) focused on weak matrix elements using Neuberger quarks and the impact on B-physics, K-physics and chiral perturbation theory and finally, Radiative return and Monte Carlo tools (WG6) discussed on MC generators for low energy hadronic cross section.

Plenary talks at *Euro-Flavour06*:

Speaker	talk title
Chris Sachrajda	<i>Lattice Computations in Kaon Physics</i>
M. Antonelli	<i>A working group on precise SM tests in K decays</i>
G. Isidori	<i>Minimal Flavour Violation: from quarks to leptons</i>
S. Trine	<i>Effects of New Physics on the rare decays $K_L \rightarrow \pi \ell^+ \ell^-$</i>
M Davier	<i>Physics with $e+e-$ and tau spectral functions</i>
G. Rodrigo	<i>PHOKHARA and the radiative return</i>
C. Smith	<i>Pion vector form-factor and the muon g-2</i>
F. Palombi	<i>Non-perturbative renormalization of four-fermion operators in the static approximation</i>
J. Heitger	<i>Towards a determination of the B_s-meson decay constant in two-flavour QCD</i>
S. Necco	<i>Chiral condensate from quenched lattice QCD</i>

T. Vladikas	<i>Lattice phenomenology from twisted mass QCD: a European approach to dynamical fermions</i>
A. Rusetsky	<i>The Delta resonance in a finite volume</i>
C. Farrel	<i>The top Yukawa Coupling at 500 GeV</i>
C. Reisser	<i>Top decay and electroweak effects at the $\bar{t}-t$ threshold</i>
T. Nakada	<i>Experimental review on future B-physics</i>
S. Descotes-Genon	<i>QCD factorisation and flavour symmetries illustrated in $B_{d,s} \rightarrow KK$ decays</i>
T. Hurth	<i>Light-cone sum rules in soft-collinear effective theory</i>
M. Blanke/A. Buras	<i>FCNC Processes in the Littlest Higgs Model with T-Parity</i>
U. Nierste	<i>$B_s - B_s$ bar mixing in the Standard Model and beyond</i>
J. Charles	<i>Bayesian magic in flavour physics</i>
E. Passemar	<i>Scalar $K\pi$ form factor and new tests of the Standard Model</i>
C. Haefeli	<i>Aspects of ChPT at large m_s</i>
M. Misiak	<i>Weak radiative B-meson decay in the SM and beyond: the NNLO case</i>
J. Rohrer	<i>Phenomenology of $B \rightarrow VV$ decays</i>
F. De Fazio	<i>Rare B decays and Universal Extra Dimensions</i>
J. Soto	$\Upsilon(nS) \rightarrow X\gamma$
R. Kaiser	<i>Towards a consistent estimate of the chiral low-energy constants</i>
K. Kampf	<i>Role of vector resonances in the flavour symmetry breaking sector</i>
J. Bijnens	<i>Photons and partial quenching; $\eta \rightarrow 3\pi$ at two loops: Status report and preliminary results</i>

In addition there were plenary talks reporting from the working group sessions.

3.2 Euro-Flavour 07

The conference *Euro-Flavour07* took place at the Univ. Paris-Sud 11 in Orsay from 14-16 Nov 2007. The local organisers were D. Bećirević, S. Descotes-Genon, B. Moussallam, M.H. Schune and A. Stocchi (node 8). The format of this three-day conference was rather similar to that of the 2006 conference. There were 111 participants (among which a third of students, for which a special reduced fee was proposed) and 37 plenary talks, which were :

Speaker	talk title
B. Ananthanarayan	<i>Puzzles of excited charmed meson masses</i>
P. Beltrame	<i>New measurements of $\sigma(e^+e^- \rightarrow \pi^+\pi^-\gamma)$ cross section</i>
J. Bijnens	<i>$\eta \rightarrow 3\pi$ at two loops in ChPT</i>
H. Czyz	<i>Recent developments in the PHOKHARA generator</i>
B. Duling	<i>Lepton flavour violation in the littlest Higgs model with T-parity</i>

A. Fuhrer	<i>Cusp effects in $K \rightarrow 3\pi$ decays</i>
B. Haas	<i>On D-decays on the lattice</i>
C. Haefeli	<i>Integrating out strange quarks in ChPT</i>
J. Heitger	<i>Quark mass dependence of the heavy-strange meson decay constant in quenched QCD</i>
A. Hoang	<i>QCD factorisation for top mass reconstruction</i>
T. Hurth	<i>Rare decays with focus on electromagnetic corrections on $B \rightarrow X_s l^+ l^-$</i>
M. Jamin	<i>α_s and the tau hadronic width</i>
J. Kamenik	<i>Lattice chiral extrapolations in processes of positive and negative parity heavy mesons</i>
K. Kampf	<i>π^0 decays</i>
M. Kolesar	<i>Aspects of resummed ChPT</i>
E. Kou	<i>Anomalous enhancement of a penguin hadronic matrix element in $B \rightarrow K \eta'$</i>
L. Lellouch	<i>Light pseudoscalar mesons in 2+1 flavor QCD</i>
V. Lubicz	<i>Light-quark masses and pseudoscalar decay constants from $N_f = 2$ lattice QCD with twisted mass fermions</i>
J. Matias	<i>The Transverse Asymmetry A_T^2 of $B_0 \rightarrow K^{*0}(\rightarrow K\pi)\ell^+\ell^-$ in SM and supersymmetry</i>
B. Moussallam	<i>Light two-particle matrix elements of the $S = 1$ vector current</i>
M. Oertel	<i>Testing non-standard couplings to Z</i>
N. Offen	<i>V_{ub} and $B \rightarrow \pi$ form factors from light-cone sum rules revisited</i>
E. Passemar	<i>Matching two-loop ChPT with the dispersive representation of the $K\pi$ scalar form factor</i>
M. Pennington	<i>Can experiment distinguish between a molecule and an underlying quark state ?</i>
S. Peris	<i>What is resonance saturation ?</i>
A. Pineda	<i>$1/N_c$ and $1/n$ preasymptotic effects in current-current correlators</i>
H. Sazdjian	<i>Integral equation for gauge invariant quark Green's function</i>
O. Schneider	<i>LHCb</i>
F. Schwab	<i>Flavour physics and CP violation in the minimal 331 model</i>
I. Scimemi	<i>The jet mass of the top quark : two-loop properties</i>
P. de Simone	<i>Precision tests from kaon decays</i>
C. Smith	<i>Minimal flavour violation, seesaw and R-parity</i>
A. Stocchi	<i>Super flavour factories</i>
D. Straub	<i>$SO(10)$ SUSY GUTs with family symmetries: the test of FCNC</i>
S. Trine	<i>The Higgs sector of the MSSM and B-\bar{B} mixing for large $\tan \beta$</i>
L. Vernazza	<i>Hadronic B decays on the MSSM at with large $\tan \beta$</i>
J. Virto	<i>Measuring ϕ_s with $B \rightarrow VV$ decays</i>

A special session was devoted to two main experiments which will play a major role in flavour physics in the next years. O. Schneider (CERN) gave an overview of the processes to be studied at LHCb, whereas A. Stocchi (LAL Orsay) provided an introduction to the two projects of Super Flavour Factory currently under discussion. An open discussion was organised so that the participants of the conference could improve their knowledge of these two major experimental projects in the field.

Time was also provided for the working groups. A special satellite meeting was organised for WG5 (Lattice) on Tuesday afternoon at LPT Orsay, before the opening of the conference. It was devoted to the determination of chiral low-energy constants from lattice QCD and to the averaging procedure of results from different lattice groups. In addition, during the conference, on Wednesday afternoon, parallel sessions were organised for the six working groups. WG1 discussed experimental and theoretical issues on K_{l2} and K_{l3} decays. WG2 focused on inclusive and exclusive semileptonic $b \rightarrow c$ transitions. WG3 addressed issues in the theoretical description of quarkonia and on the use of resonances for hadronic τ decays. WG4 investigated the interplay of large- N_c models of resonances with the determination of low-energy constants. WG5 discussed the use of effective theories (ChPT and HQET) on the lattice, and kept on discussing the issues raised in the Tuesday satellite meeting. WG6 studied issues related to the PHOKARA Monte-Carlo generator. The outcome of these discussions was presented by the WG leaders on Friday afternoon in a dedicated plenary session.

In addition, during the time of the conference, an outreach conference was proposed in French by P. Roudeau (LAL Orsay) for the researchers and students of the campus of Orsay, but also for the inhabitants of the neighbouring towns. This colloquium on the history and the present of particle physics was organised in the framework of the local committee of the French Physical Society (SFP). This successful conference prompted the organisation of a second colloquium two months later in the same framework, more focused on the LHC Physics, by M. Giovannozzi (CERN).

3.3 Conferences and workshops within FLAVIANet

Several conferences and workshops took place in the FLAVIANet nodes. Here we list both genuine FLAVIANet meetings and international conferences and workshops organised by FLAVIANet members at their home institutions.

Node no.	Conference/Workshop
3	<i>LHCb upgrade workshop</i> , Univ. of Durham, UK, 11-12 January 2007
3	<i>ApeNEXT: Computational Challenges and First Physics Results</i> , Galileo Galilei Institute for Theoretical Physics, Arcetri, Italy, 8-10 February 2007.
5	<i>FLAVIANet Mini-Workshop on Kaon Decays</i> , Laboratori Nazionali di Frascati, Frascati, Italy, 18-19 May 2007.
5	<i>Kaon 2007</i> , May 21-25 2007, Frascati National Laboratories of INFN, Italy. http://www.lnf.infn.it/conference/kaon07/

1	<i>V. European Twisted Mass Collaboration Meeting</i> , 11-12 June 2007, Valencia
5,8	<i>Lattice computations and subatomic physics</i> , 14-15 June 2007, Orsay
3	<i>Heavy Flavour Physics (UK Forum)</i> , Univ. of Durham, UK, 21-22 June 2007
7	<i>4th International Pion-Nucleon PWA Workshop</i> 26-29 Jun 2007, Helsinki, Finland, http://www.hip.fi/~pwa07/
4	<i>15th International Conference On Supersymmetry And The Unification Of Fundamental Interactions (SUSY07)</i> , 26 Jul - 1 Aug 2007, Karlsruhe, Germany, http://www.susy07.uni-karlsruhe.de
5	<i>QCD in extreme conditions</i> , 6th - 8th August 2007, Frascati National Laboratories of INFN, Italy, http://www.lnf.infn.it/conference/xqcd2007/
3	<i>Renormalization Group and EFT</i> , Univ. of Durham, UK, 27-29 September 2007
1	<i>SuperB Workshop VI: New Physics at the Super Flavour Factory SuperB</i> , 7th - 15th January 2008, Valencia (Spain) http://ific.uv.es/superb
1	<i>10th International Workshop on Neutrino Factories, Super beams and Beta beams</i> , 30th June - 5th July 2008, Valencia (Spain) http://ific.uv.es/nufact08
2	<i>HADRONTH07: Workshop of the HADRONTH network of the HADRONPHYSICS I3 EU project</i> , 1st - 4th October 2007, Barcelona, Spain, http://www.ecm.ub.es/bruno/hadron07/
2	<i>School on Flavor Physics</i> , 13th - 25th July 2008, Benasque, Spain, http://benasque.ecm.ub.es/2008flavor/2008flavor.htm
5	<i>Flavianet Kaon Workshop</i> 12th - 14th June 2008, Anacapri (Italy) http://flavianetcapri.na.infn.it
5	<i>Second Workshop on Theory, Phenomenology and Experiments in Heavy Flavour Physics</i> 16th - 18th June 2008, Anacapri (Italy) http://web.na.infn.it/index.php?id=b-physics-capri
5	<i>V Italian Informal Meeting on B Physics</i> 3rd-4th April 2008, Cagliari (Italy) http://www.ca.infn.it/gruppo1/IncontriB_08/index.html
5	<i>International Workshop on e^+e^- collisions from Φ to Ψ</i> 7th-10th April 2008, Frascati (Italy) http://www.lnf.infn.it/conference/phipsi08/
5	<i>XIII LNF Spring School in Nuclear, Subnuclear and Astroparticle Physics</i> 12th -16th May 2008 Frascati (Italy) http://www.lnf.infn.it/conference/lnfss/08/
6	<i>International Linear Collider ECFA Workshop</i> , 9-12 June 2008, Warsaw, Poland http://ecfa2008.fuw.edu.pl/
8	<i>Lattice Simulations of Quantum Fields</i> , 26th March - 1st April 2008, LPT Orsay, http://www.th.u-psud.fr/block-course/

11	<i>Sixth International Workshop on Chiral Dynamics (Theory and Experiment)</i> , 6th-10th July 2009, Berne, Switzerland, http://www.chiral09.unibe.ch
11	<i>Hadron Physics Summer School</i> , 11th - 15th August, Bad Honnef, Germany, http://www.fz-juelich.de/ikp/hpss2008
11	<i>MENU2007 – 11th International Conference on Meson-Nucleon Physics and the Structure of the Nucleon</i> , 10-14 September 2007, Jülich, Germany, http://www.fz-juelich.de/ikp/menu2007
11	<i>39. Arbeitstreffen Kernphysik</i> , 21-28 February 2008, Schleching, Germany, http://www-win.gsi.de/AK-Schleching2008
11	<i>QCD, spin physics and chiral dynamics in nuclei Session, International Conference on Particles And Nuclei (PANIC08)</i> , November 2008, Eilat, Israel, http://www.weizmann.ac.il/conferences/panic08
11	<i>NSTAR 2007 – Workshop on the Physics of Excited Nucleons</i> , 5-8 September 2007, Bonn, Germany, http://nstar2007.uni-bonn.de
11	<i>LIGHT CONE 2008 – Relativistic Nuclear and Particle Physics</i> , 7-11 July 2008, Mulhouse, France http://clrwww.in2p3.fr/LC2008
11	<i>Vth International Conference on Quarks and Nuclear Physics (QNP08/09)</i> , 2008/2009, Beijing, China, http://tpcsf.ihep.ac.cn/QNP09/index.htm
11	<i>Perspectives and challenges for full QCD lattice calculations</i> , 5th - 9th May 2008, Trento, Italy, http://www.ect.it

3.4 Other conferences and workshops

Below we list the international conferences and workshops at which FLAVIA_{net} researchers have presented their scientific results. Several of these conferences were attended by a large number of FLAVIA_{net} members and were used for networking.

Name	Node no.	Conference/Workshop <i>talk title</i>
Roberto Bonciani	1	Rencontres de Physique des Particules 2007, LPSC Grenoble, France. February 2007. <i>Analytical calculation of massive Feynman diagrams and the NLO corrections to $H \rightarrow \gamma\gamma$ and $gg \rightarrow H$</i>
Germán Rodrigo	1	HEP2007 Europhysics Conference, Manchester, England. July 2007. <i>Electroweak Corrections to Higgs Production and Decay</i> 8th International Symposium On Radiative Corrections (RADCOR 2007): Application Of Quantum Field Theory To Phenomenology, 1-6 Oct 2007, Florence, Italy, <i>Axigluon signatures at hadron colliders</i>

		<p>5th Super B Factory Workshop, 9-11 May 2007, Paris, France, <i>ISR studies at flavour factories</i></p> <p>Symposium on Precision Calculations for Hadron and Lepton Colliders, 23-24 Nov 2007, Karlsruhe, Germany, <i>From top asymmetries to PHOKHARA</i></p> <p>International Linear Collider (ILC) Workshop (ILC-ECFA and GDE Joint Meeting), 6-10 Nov 2006 Valencia, Spain, <i>A new method to compute multileg one-loop cross sections</i></p>	
Ignasi Rosell	1	<p>QCD@work2007: International Workshop on Quantum Chromodynamics, Theory and Experiment, 16-20 June 2007, Martina Franca, Italy, <i>Determining chiral couplings at NLO</i></p>	
Silvia Necco	1	<p>25th International Symposium on Lattice Field Theory, 30 Jul - 4 Aug 2007, Regensburg, Germany, <i>Determining QCD Low-Energy couplings from lattice simulations</i></p> <p>Workshop on Domain Wall Fermions at Ten Years, 15-17 Mar 2007, Upton, New York, <i>Chiral condensate from finite-size study</i></p> <p>Fermions and Extended Objects on the Lattice, <i>The chiral condensate in QCD: a finite-size scaling study on the lattice</i></p> <p>XII IFT-UAM/CSIC Christmas Workshop, Madrid, Spain, <i>The chiral condensate in QCD: a finite-size scaling study on the lattice</i></p>	
Pilar Hernández	1	<p>Workshop on Domain Wall Fermions at Ten Years, 15-17 Mar 2007, Upton, New York, <i>Low-energy Couplings from Lattice QCD in the ϵ-regime</i></p> <p>Golden 07: International Workshop on The Golden Channel at a Neutrino Factory, 27-30 June 2007, Valencia, Spain, <i>Organizer</i></p> <p>25th International Symposium on Lattice Field Theory, 30 Jul - 4 Aug 2007, Regensburg, Germany, <i>Weak Low-energy Couplings from topological zero-mode wavefunctions</i></p> <p>9th International Workshop on Neutrino Factories, Superbeams and Beta-beams (NuFact07) 6-11 Aug 2007, Okayama, Japan, <i>Convenor</i></p>	
Jorge Portolés	1	<p>9th International Workshop on Tau Lepton Physics (Tau06), 19-22 Sep 2006, Pisa, Italy, <i>Hadronic decays of the tau lepton: Theoretical Outlook</i></p> <p>4th International Workshop on The CKM Unitarity Triangle (CKM 2006), 12-16 Dec 2006, Nagoya, Japan, <i>Analytical approaches to the calculation of $f_+^{K^0\pi^-}(0)$</i></p>	

		<p>21st International Workshop on Weak Interactions And Neutrinos (WIN07) 15-20 Jan 2007, Kolkata, India, <i>V_{ud} and V_{us} : Theoretical progress $\pi\pi$ rescattering in $K \rightarrow \pi\pi$</i></p> <p>31st International Conference of Theoretical Physics: Matter To The Deepest: Recent Development In Physics Of Fundamental Interactions 5-11 Sep 2007, Ustron, Katowice, Poland, <i>Chiral Low-Energy Constants : Status and Prospects</i></p>
Vicent Mateu	1	<p>5th International Workshop on Chiral Dynamics, Theory And Experiment (CD 2006) 18-22 Sep 2006, Durham / Chapel Hill, North Carolina, <i>Exceptional and non-exceptional contributions to the radiative pion decay</i></p> <p>QCD@work2007: International Workshop on Quantum Chromodynamics, Theory and Experiment, 16-20 June 2007, Martina Franca, Italy, <i>Chiral Perturbation Theory in the presence of external tensor sources and its phenomenological applications</i></p>
Pablo Roig	1	<p>QCD@work2007: International Workshop on Quantum Chromodynamics, Theory and Experiment, 16-20 June 2007, Martina Franca, Italy, <i>Hadronic decays of the tau lepton into $KK\pi$ modes within Resonance Chiral Theory</i></p> <p>12th Frascati Spring School 'Bruno Touschek' in Nuclear, Subnuclear and Astroparticle Physics: Flavor And Hadron Physics In The Wake Of LHC 14-18 May 2007, Frascati, Italy, <i>Hadronic decays of the tau lepton into KK pion modes within Resonance Chiral Theory</i></p>
Martín González	1	<p>12th Frascati Spring School 'Bruno Touschek' in Nuclear, Subnuclear and Astroparticle Physics: Flavor And Hadron Physics In The Wake Of LHC 14-18 May 2007, Frascati, Italy, <i>Estimate of the light-flavour QCD condensates contributing to the V-A correlator</i></p>
Antonio Pich	1	<p>9th International Workshop on Tau Lepton Physics (Tau06), 19-22 Sep 2006, Pisa, Italy, <i>Tau Physics 2006: Summary and Outlook</i></p> <p>4th Super B Factory Workshop, 13-15 November 2006, Monte Porzio Catone, Italy, <i>Tau physics: theory</i></p> <p>5th Super B Factory Workshop, 9-11 May 2007, Paris, France, <i>Flavour physics with other facilities</i></p> <p>Kaon International Conference (KAON'07) 21-25 May 2007, Frascati, Italy, <i>Theoretical progress on the V_{us} determination from tau decays</i></p>

José Antonio Oller	1	<p>31st International Conference of Theoretical Physics: Matter To The Deepest: Recent Development in Physics of Fundamental Interactions, 5-11 Sep 2007, Ustron, Katowice, Poland, <i>Selected topics on tau physics</i></p> <p>HadronTH'06 Workshop, 7-9 Sep 2006, Peñíscola, Spain, <i>A Non-Perturbative Chiral Study of Pseudoscalar Masses</i></p> <p>5th International Workshop on Chiral Dynamics, Theory and Experiment, 18-22 Sep 2006, UNC-Chapel Hill, North Carolina, USA, <i>Status of SU(3) Chiral Dynamics for Baryons ; Non-Perturbative Study of Pseudoscalar Self-Energies</i></p> <p>IX International Conference on Hypernuclear and Strange Particle Physics, 10-14 Oct 2006, University of Mainz, Mainz, Germany, <i>On the Strangeness –1 Meson-Baryon Scattering</i></p> <p>MENU2007, 11th International Conference on Meson-Nucleon Physics and the Structure of the Nucleon, 10-14 Sep 2007, Forschungszentrum Juelich, Juelich, Germany, <i>Scalar radius of the pion and two photons into two pions. Strong S-wave final state interactions</i></p> <p>XII International Conference on Hadron Spectroscopy, 8-13 Oct 2007, Laboratori Nazionali di Frascati, Rome, Italy, <i>On the Strangeness –1 Meson-Baryon Spectroscopy</i></p>
Elisabetta Pallante	1	<p>XII International Conference on Hadron Spectroscopy, 8-13 Oct 2007, Laboratori Nazionali di Frascati, Rome, Italy, <i>Light Hadrons in Chiral Perturbation Theory</i></p>
Germán Rodrigo	1	<p>HERA and the LHC: 4th Workshop on the implications of HERA for LHC physics, CERN, Switzerland. May 2008. <i>A duality relation between one-loop and phase-space integrals</i></p> <p>9th DESY Workshop on Elementary Particle Theory: Loops and Legs in Quantum Field Theory, Sonderhausen, Germany. April 2008. <i>From multileg loops from trees (bypassing Feynman's Tree Theorem)</i></p> <p>PHIPSI08: International Workshop on e+e- collisions from Phi to Psi, Frascati, Italy. April 2008.</p> <p>8th International Symposium on Radiative Corrections: Application of Quantum Field Theory to Phenomenology (RADCOR 2007), Florence, Italy. October 2007. <i>Axiguon signatures at hadron colliders</i></p>

José Antonio Oller	1	XII International Conference on Hadron Spectroscopy, Laboratori Nazionali di Frascati, Rome, Italy. October 2007. <i>On the Strangeness –1 Meson-Baryon Spectroscopy</i> Scalar mesons and Related Topics $\gamma\gamma \rightarrow \pi\pi$, $f_0(980) \rightarrow \pi\pi$, <i>scalar glueball</i>	
Ignasi Rosell	1	Euroflavour 07 - Annual Meeting of the FLAVInet network, Orsay, France (November 2007), <i>Improving the theoretical status of $\pi(K) \rightarrow e\nu_e[\gamma]$</i> QCD08: 14th International QCD Conference, Montpellier, France (July 2008), <i>Current correlators and form factors in the resonance region</i>	
Oscar Vives	1	PLANCK 2008 From the Planck Scale to the ElectroWeak Scale, Barcelona, Spain. (May 2008). <i>Electric dipole moments from flavoured CP violation in SUSY</i>	
Silvia Necco	1	EuroFlavour '07, Univ. Paris-Sud 11, Orsay, France (November 2007). <i>Determining QCD Low-Energy Couplings From Lattice Simulations</i> Nobel Laureate Meetings, Lindau, Germany, (June 2008).	
David Greynat	1	EuroFlavour '07, Univ. Paris-Sud 11, Orsay, France (November 2007). <i>Progress on analytical expression of K_{l3} form factors at two loop order</i>	ER
Christoph Haefeli	1	XIII IFT-UAM/CSIC Christmas Workshop, Madrid, Spain, (December 2007).	
Jorge Portolés	1	QCD08: 14th International QCD Conference, Montpellier, France (July 2008), <i>Analysis of $\tau \rightarrow \nu_\tau K_S \pi$ Belle data in a chiral framework</i>	
Pablo Roig	1	QCD08: 14th International QCD Conference, Montpellier, France (July 2008), <i>Improving the hadronization of QCD currents in TAUOLA</i> QCD08: International Workshop on e^+e^- collisions from Φ to Ψ , Frascati, Italy (April 2008), <i>A proposal for improving the hadronization of QCD currents in TAUOLA</i>	
Martín González-Alonso	1	QCD08: 14th International QCD Conference, Montpellier, France (July 2008), <i>Determination of chiral low-energy constants from tau data</i>	
Antonio Pich	1	PhiPsi08: International Workshop on e^+e^- collisions from Φ to Ψ Laboratori Nazionali di Frascati, Italy (7-10 April 2008), <i>Tau Physics: Theory Overview</i> CPT@ICTP 2008: Workshop on the origins of P, CP and T violation, ICTP, Trieste, Italy (2-5 July 2008), <i>CP Violation in Kaon Decays</i>	

Elisabetta Pallante	1	<p>QCD08: 14th International QCD Conference, Montpellier, France (7-12 July 2008), <i>The Physics of τ decay</i></p> <p>Hadron '07, Frascati National Laboratories, Rome, Italy, (October 2007). <i>The Many Uses of Chiral Effective Theories</i>.</p> <p>EuroFlavour '07, Orsay, France, (November 2007). <i>Analytic approaches to nonperturbative QCD</i> (summary talk- WG4).</p> <p>Lattice 2008, International Conference on Lattice Field Theories, College of William Mary, Williamsburg, Virginia, USA, (July 2008) <i>Searching for the Conformal Window</i> (contribution to Applications beyond QCD).</p>
Albert Deuzeman	1	<p>Lattice 2008, International Conference on Lattice Field Theories, College of William & Mary, Williamsburg, Virginia, USA, (July 2008) <i>The Physics of Eight Flavours</i> (contribution to Applications beyond QCD).</p>
Siebren Reker	1	<p>Lattice 2008, International Conference on Lattice Field Theories, College of William & Mary, Williamsburg, Virginia, USA, (July 2008) <i>Status of the $N_f = 2+1+1$ simulations by the ETM Collaboration</i> (contribution to Hadron spectrum).</p>
Pilar Hernández	1	<p>International Workshop Rencontres de Moriond: Electroweak Interactions and Unified Theories (1-8 March 2008), <i>Organizer</i></p> <p>XXIII International Conference on Neutrino Physics and Astrophysics (Christchurch, New Zealand, 25-31 May 2008), <i>Outlook: theory</i></p> <p>2008 European School on High Energy Physics (Herbeumont-sur-Semois, Belgium, 8-21 June 2008), <i>Lecturer: Neutrino Physics</i></p> <p>10th International Workshop on Neutrino Factories, Superbeams and Betabeams (Valencia, Spain, 30 June - 5 July 2008), <i>Organizer, Convenor</i></p>
Fernando Martínez-Vidal	1	<p>Eighth International Conference on Hyperons, Charm and Beauty Hadrons –BEACH2008– (Columbia, SC, USA, 22-28 June 2008), <i>Unitarity Triangle angles at BaBar</i></p>
Diego A. Milanés	1	<p>American Physical Society (APS) Meeting (St. Louis, MO, USA, 12-15 April 2008), <i>Dalitz plot Analysis of $D^0 \rightarrow K_S \pi^+ \pi^-$ and $D^0 \rightarrow K_S K^+ K^-$ decays</i></p> <p>16th International Conference on Supersymmetry and Unification of Fundamental Interactions –SUSY08– (Seoul, Korea, 16-21 June 2008), <i>Charm Mixing and CP Violation at BaBar Experiment</i></p>

Neus López-March	1	American Physical Society (APS) Meeting (St. Louis, MO, USA, 12-15 April 2008.), <i>Measurement of γ using a D Dalitz analysis of $B^\pm \rightarrow D^{(*)}K^{(*)\pm}$ decays</i>
M. Jamin	2	XLIIInd Rencontres de Moriond EW, 10-17 March 2007, La Thuile, Italy <i>Status of V_{us}</i>
J. Nieves	2	poster at The XXV International Symposium on Lattice Field Theory, Regensburg, Germany, August 2007 <i>Elastic s-wave scattering phase shifts and V_{ub} from lattice calculations of form factors for exclusive semileptonic decays</i>
A. Pineda	2	Workshop on Fundamental Neutron Physics, Seattle, USA, 2007 <i>Nuclear effects in atomic physics from effective theories</i>
A. Bramon	2	Int. Conf. KAON(2007), LNF, Frascati, Italy, May 21-25, 2007, <i>Local realism vs quantum mechanics with entangled neutral kaons</i> Quantum Theory: Reconsiderations of Foundations-4(QTRF4), Vaxjo, Sweden, June 11-16, 2007, <i>Kaonic quantitative complementarity and quantum erasers</i>
J. Matias	2	LHCb Meeting, CERN, Geneva, Switzerland, March 2007, $B^0 \rightarrow K^{*0}(\rightarrow K\pi)\ell^+\ell^-$
J. Soto	2	Hirscheegg 2007 The structure and dynamics of hadrons, Hirscheegg, Austria, January 2007 <i>Semi-inclusive radiative decays of Upsilon (1S)</i>
J. Prades	2	Int. Conf. KAON(200)Int. Conf. KAON(2007), LNF, Frascati, Italy, May 21-25, 2007 <i>ChPT Progress on non-leptonic and radiative Kaon decays</i> Topical workshop on the Muon magnetic moment, 25-26 October, Univ. of Glasgow, U.K. <i>Light-by-light contribution to Muon $g - 2$: Status and Prospects</i>
R. Escribano	2	ETA07: 2nd EtaMeson-Net Workshop, Peñíscola, Spain, May 10-11, 2007 <i>On the gluon content of the η and η' mesons</i>
J. Prades	2	Topical Workshop on The Muon Magnetic Dipole Moment $(g - 2)_\mu$, 25-26 October 2007, Glasfог, UK, <i>Status and Prospects of the Hadronic Light-by-Light contribution to muon $g - 2$</i> International Workshop on e+ e- Collisions from Phi to Psi (PHIPSI08), Frascati, Italy, 7-10 Apr 2008, <i>Hadronic Light-by-Light Contribution to Muon $g - 2$: Status and Prospects</i> QCD 08, Montpellier, France 7-12 July 2008, $\sigma \rightarrow \gamma\gamma$ <i>Width from Nucleon Electromagnetic Polarizabilities</i>

A. Pineda	2	International Workshop on Heavy Quarkonium 2007, DESY, Germany, 2007, <i>Inclusive electromagnetic decays of heavy quarkonium</i> FLAVIANet Meeting EUROFLAVOUR07, Paris, France, 2007, <i>Preasymptotic effects in $1/n$ and $1/N_c$ in current-current correlators</i>
A. Parreño	2	Final HadronTH 2007 Collaboration Meeting, Barcelona, October, 1997, <i>Extracting low-energy hadron-hadron physics from LQCD</i> The 20th European Conference on Few-Body Problems in Physics, Pisa, Italy, September 2007, <i>Extracting low-energy hadron-hadron physics from LQCD</i>
A. Ramos	2	International Workshop: Hadrons@FAIR, June 25-27, 2008 FIAS, Universitat Frankfurt am Main, Germany, <i>Open charm mesons in a hot and dense medium</i>
M. Jamin	2	EuroFlavour '07, 14-16 November 2007, Univ. Paris-Sud 11, Orsay, France, α_s and the τ hadronic width
F. Schwab	2	EuroFlavour '07, 14-16 November 2007, Univ. Paris-Sud 11, Orsay, France, <i>Flavour Physics and CP Violation in the Minimal 331 Model</i>
R. Escribano	2	XII International Conference on Hadron Spectroscopy HADRON 07, Laboratori Nazionali di Frascati (Rome), Italy, 8-13 October 2007, <i>On the gluon content of the η and η' mesons</i> Workshop on Scalar Mesons and Related Topics SCADRON 70, IST (Lisbon), Portugal, 11-16 February 2008, <i>Update of η-η' mixing from $J/\psi \rightarrow VP$ decays</i> International Workshop on e^+e^- collisions from Φ to Ψ PHIPSI08, Laboratori Nazionali di Frascati (Rome), Italy, 7-10 April 2008, <i>Update of η-η' mixing from $J/\psi \rightarrow VP$ decays</i>
J. Soto	2	HadronTH 2007 Meeting, October 1-4, 2007, Barcelona, Spain, <i>Charmonium within EFT</i> International Workshop on Heavy Quarkonium 2007, 17-20 October 2007, DESY, Hamburg, Germany, <i>Convener of the spectroscopy section</i> Second Workshop on Theory, Phenomenology and Experiments in Heavy Flavour Physics. June 16-18 2008, Capri, Italy, <i>Invited to participate in the Round table on Heavy Quarkonium and New Exotic spectroscopy</i>
J. Nieves	2	Workshop on Chiral Symmetry in Hadron and Nuclear Physics: Chiral07, Osaka, Japan, 13-16 Nov 2007, <i>Extension to $SU(6)$ and $SU(8)$ Spin-Flavor Symmetries</i>

S. Peris	2	EuroFlavour '07, 14-16 November 2007, Univ. Paris-Sud 11, Orsay, France, <i>What is resonance saturation?</i> Flavianet Kaon Workshop, Anacapri, Italy, June 2008, <i>What is resonance saturation?</i>
J. Matias	2	CERN, Theory Division, LHCb meeting 2007, $B \rightarrow K^*(\rightarrow K\pi)l^+l^-$ in supersymmetry:AT1, AT2 and more 2nd Workshop on Flavour Dynamics, Albufeira, Portugal, Nov. 2007, <i>Probing right-handed currents with the AT2 asymmetry</i> Euroflavour 07, Orsay, Francia, Nov. 2007, <i>The transverse asymmetry AT2 of $B \rightarrow K^*(\rightarrow K\pi)l^+l^-$ in SM and supersymmetry</i> Second Workshop on Theory, Phenomenology and Experiments in Heavy Flavour Physics, Capri, June 2008, <i>Extracting the B_s-\bar{B}_s mixing angle from $B \rightarrow VV$ decays and comments on $B \rightarrow K^*l^+l^-$</i>
Patricia Ball	3	Future of Heavy Flavour Physics, Oct 2006, London, U.K., <i>Probing New Physics Through Flavour</i>
Roman Zwicky	3	Flavour in the era of the LHC, October 2006, CERN, Switzerland, <i>Time dependent CP asymmetry in $B \rightarrow K^*\gamma$</i>
C.T. Sachrajda	3	First Euroflavour Workshop, 2-4 November 2006, Barcelona, Spain, <i>Lattice Computations in Kaon Physics</i>
Michael Pennington	3	Yukawa Institute Symposium, New Frontiers in QCD: Exotic hadrons and hadronic matter, 19-26 Nov 2006, Kyoto, Japan <i>Can experiment distinguish between a four quark scalar, a molecule or a $\bar{q}q$ meson?</i>
Patricia Ball	3	CKM2006, 4th International Workshop on the CKM Unitarity Triangle, 12-16 Dec 2006, Nagoya, Japan, $ V_{ub} $ from $B \rightarrow \pi e \nu$ CKM06, 4th International Workshop on the CKM Unitarity Triangle, 12-16 Dec 2006, Nagoya, Japan, $ V_{td}/V_{ts} $ from QCD sum rules on the light-cone CKM06, 4th International Workshop on the CKM Unitarity Triangle, 12-16 Dec 2006, Nagoya, Japan, <i>Constraints on new physics from γ and V_{ub}</i>
Jonathan Flynn	3	CKM06, 4th International Workshop on the CKM Unitarity Triangle, 12-16 Dec 2006, Nagoya, Japan, $ V_{ub} $ exclusive: form factors from lattice QCD
Christopher Sachrajda	3	CKM06, 12-16 Dec 2006, Nagoya, Japan, <i>Lattice Flavour dynamics: Status and Prospects</i>

Patricia Ball	3	BaBar workshop on physics at 1 ab^{-1} , Dec 2006, SLAC, U.S.A., $ V_{tb}/V_{ts} $ and γ from B to $(\rho, \omega)\gamma/B$ to $K^*\gamma$ Annual U.K. Theory Meeting, December 2006, Durham, U.K., <i>QCD effects in B physics</i> First LHCb Collaboration Upgrade Workshop, 11-12 January 2007, Edinburgh, U.K., <i>Exclusive b to s transitions at the LHC</i> First LHCb Collaboration Upgrade Workshop, 11-12 January 2007, Edinburgh, U.K., <i>Theory Summary</i>
C.T. Sachrajda	3	First LHCb Collaboration Upgrade Workshop, 11-12 January 2007, Edinburgh, UK, <i>Prospects for Lattice Phenomenology</i>
Michael Pennington	3	International Workshop XXXV on Gross Properties of Nuclei & Nuclear Excitations, 14-20 January 2007, Hirschegg, Austria, <i>The structure and dynamics of hadrons</i> Workshop on QCD and Confinement: connecting the light and heavy quark domains, 12-16 March 2007, ECT*, Trento, Italy, <i>Scalars: the Higgs sector of QCD</i> International Conference on Hadron Structure and Spectroscopy, 19-22 March 2007, Freiburg, Germany, <i>Hadron structure and dynamics at the QCD scale</i>
Patricia Ball	3	<i>Rencontres de Moriond</i> , March 2007, La Thuile, France, <i>Probing new physics through B_s mixing</i> <i>Rencontres de Moriond</i> , March 2007, La Thuile, France, <i>$D^0-\bar{D}^0$ mixing – Theory</i>
Frank Close	3	5th Flavor Physics and CP Violation Conference (FPCP 2007), 12-16 May 2007, Bled Slovenia <i>Rumsfeld Hadrons</i>
Patricia Ball	3	5th Flavor Physics and CP Violation Conference (FPCP 2007), 12-16 May 2007, Bled Slovenia <i>Exclusive Semileptonic Decays of B Mesons</i>
C.T. Sachrajda	3	Kaon '07, Kaon International Conference, 21-25 May 2007, Frascati, Italy, <i>Lattice Studies of Non-Leptonic Decays</i>
A. Jüttner	3	Kaon '07 Kaon International Conference, May 21-25 2007, Frascati, Italy <i>$K \rightarrow \pi$ semileptonic form factor with 2+1 flavor domain wall Fermions on the lattice</i>
Frank Close	3	Physics in Collision 26-29 June, Annecy <i>Rumsfeld Hadrons</i>
Roman Zwicky	3	EPS 2007 (European Physical Society Conference on High Energy Physics), 19-25 July, 2007, Manchester, UK <i>Unparticles and CP-violation</i>

J.M. Flynn	3	25th International Symposium on Lattice Field Theory, 30 July - 4 August 2007, Regensburg, Germany, <i>Elastic s-wave scattering phase shifts and V_{ub} from lattice calculations of form factors for exclusive semileptonic decays</i>
Andreas Jüttner	3	25th International Symposium on Lattice Field Theory, 30 July - 4 August 2007, Regensburg, Germany, <i>Status of Kaon physics on the lattice</i>
Changhoan Kim	3	25th International Symposium on Lattice Field Theory, 30 July - 4 August 2007, Regensburg, Germany, $\Delta I = 1/2$ $K \rightarrow \pi\pi$ decays at next-to-leading order in chiral perturbation theory
Christopher Sachrajda	3	25th International Symposium on Lattice Field Theory, 30 July - 4 August 2007, Regensburg, Germany, <i>Parton distribution amplitudes</i>
Michael Pennington	3	MENU 2007, 9-14 Sept 2007, Jülich, Germany, <i>Structure of light scalar mesons</i>
Roman Zwicky	3	International EuroPhysics Conference on High Energy Physics (EPS-HEP2007), Jul 2007, Manchester, UK <i>Unparticles and CP-violation</i>
Frank Close	3	XII International Conference on Hadron Spectroscopy, Oct 2007, Frascati, Italy, π exchange and hybrids: which is more attractive?
Patricia Ball	3	2nd Workshop on Flavour Dynamics, Nov 2007, Albufeira, Portugal, <i>Unparticle Physics</i>
Christopher Sachrajda	3	2nd Workshop on Flavour Dynamics, November 3-10 2007, Albufeira, Portugal, <i>Kaon Physics with Chiral Quarks</i>
Christopher Sachrajda	3	Annual Theory Christmas Meeting on High Energy Physics, December 17-19 2007, Durham, UK, <i>Flavour Physics with Domain Wall Fermions</i>
Jonathan Flynn	3	3rd International Workshop on B Factories and New Measurements, BNM2008, January 24-26 2008, Atami, Japan, <i>Future of Lattice Calculations for b physics</i>
Michael Pennington	3	415th W & E Heraeus Seminar, Mar 2008, St Goar, Germany <i>Quarks and hadrons in strong QCD</i>
Jonathan Flynn	3	HackLatt2008 Workshop, April 1-3 2008, NeSC Edinburgh, <i>Chiral Perturbation Theory</i>
Christopher Sachrajda	3	CERN Theory Institute <i>Flavour as a Window to New Physics at the LHC</i> , May 5 - June 13 2008, Geneva, Switzerland, <i>Kaon Physics with Chiral Fermions</i>
Christopher Sachrajda	3	FlaviaNet Kaon Workshop, June 12-14 2008, Anacapri, Italy, <i>Kaon Physics with Chiral Quarks</i>

Christopher Sachrajda	3	2nd Workshop on Theory, Phenomenology and Experiments in Heavy Flavour Physics, June 16-18 2008, Anacapri, Italy, <i>Theoretical Issues in Lattice Simulations of Heavy Quark Physics</i>
Wolfgang Altmannshofer	4	The 15th International Conference on Supersymmetry and the Unification of Fundamental Interactions (SUSY '07), 26 Jul - 1 Aug 2007, Karlsruhe, Germany, <i>SO(10) SUSY GUTs with family symmetries: the test of FCNCs</i>
Guido Bell	4	SCET Workshop 2007, 29-31 Mar 2007, Berkeley, California <i>NNLO corrections in hadronic B decays</i>
Martin Beneke	4	8th International Symposium On Radiative Corrections (RADCOR 2007): Application Of Quantum Field Theory To Phenomenology, 1-6 Oct 2007, Florence, Italy, <i>NNLO results on top quark production near threshold and quarkonium bound states</i>
Monika Blanke	4	HQL06 Heavy Quarks and Leptons, München, October 16-20, 2006, <i>Theory of non-leptonic B decays</i> Planck'07: From the Planck Scale to the Electroweak Scale, Warsaw, June 9–13 2007, <i>Lepton Flavour Violation in the Littlest Higgs Model with T-Parity</i>
Andrzej Buras	4	5th Workshop On Flavour In The Era Of The LHC 26-29 Mar 2007, Geneva, Switzerland, <i>FCNC processes in the LHC era</i> Tenth European Meeting From the Planck Scale to the Electroweak Scale (Planck '07), 9-13 Jun 2007, Warsaw, Poland, <i>FCNC news</i>
Achim Denig	4	Workshop on the Structure and Dynamics of Hadrons, 15-20 Jan 2007, Hirschegg, Austria, <i>Perspectives for Charm Physics at a Super-B-Factory</i>
Björn Duling	4	Matter to the Deepest: Recent Developments in Physics of Fundamental Interactions, 5-11 Sept 2007, Ustron, Poland, <i>KLOE Results on Hadronic Cross Section</i>
Thorsten Feldmann	4	SUSY 07 in Karlsruhe, July 25– August 1 2007, <i>Lepton Flavor Violation in the LHT</i>
Agnieszka Grzelinska	4	Flavianet Meeting in barcelona, 2.11.-4.11.06 <i>Soft Collinear Effective Theory: REcent Results</i>
Diego Guadagnoli	4	DPG - spring meeting, 5-9 March 2007, Heidelberg, Germany <i>Using radiative return method to measure Λ form factors at B-meson factories</i> Ringberg Phenomenology Workshop on Perspectives in Heavy Flavor Physics, 1-6 Oct 2006, Ringberg Castle, Rottach-Egern, Germany <i>FCNCs within SUSY</i>

		<p>NA48 Workshop, 12 Dec 2006, CERN, Geneva, Switzerland <i>Form Factors for Semileptonic Hyperon Decays from Lattice QCD</i></p> <p>Conference IFAE 2007, 11-13 Apr 2007, Naples, Italy <i>SUSY effects in Delta F = 2 Transitions</i></p> <p>The 2007 Europhysics Conference on High Energy Physics (EPS-HEP 2007), 19-25 Jul 2007, Manchester, UK <i>D0 - D0bar Mixing: Theory Introduction</i></p> <p>The 15th International Conference on Supersymmetry and the Unification of Fundamental Interactions (SUSY '07), 26 Jul - 1 Aug 2007, Karlsruhe, Germany, <i>A natural route to near-flavour-conservation in SUSY: the Minimal Flavour Violating MSSM. Application to meson mixings</i></p>
Andre Hoang	4	<p>KET LHC-D Topquark Workshop (II), Bad Honnef, Germany <i>Top quark mass: fitting, threshold and reconstruction</i></p>
Tobias Huber	4	<p>Loopfest 6: Radiative Corrections for the LHC and ILC, April 16-18, 2007, Fermilab, Chicago, USA <i>Factorisation approach to top mass reconstruction</i></p> <p>EPS HEP 2007, Manchester, UK, July 19-25 2007, <i>Recent developments in radiative B decays</i></p> <p>International Linear Collider Workshop, May 30 - June 3, 2007 DESY, Hamburg, Germany <i>Factorization approach to top mass reconstruction in the continuum: What mass is measured</i></p> <p>International Linear Collider Workshop, May 30 - June 3, 2007 DESY, Hamburg, Germany <i>Recent advances at the top threshold: summation of logs and finite lifetime corrections</i></p> <p>KET LHC-D Workshop on QCD and electroweak physics at the LHC, 5-6 July, 2007 Munich, Germany <i>Factorisation approach to top mass reconstruction</i></p> <p>KET LHC-D Workshop on QCD and electroweak physics at the LHC, 5-6 July, 2007 Munich, Germany <i>Factorisation approach to top mass reconstruction</i></p> <p>ILC Physics at Florence, Sept 12-16, 2007, Florence, Italy <i>Top physics at the ILC: a selective review</i></p> <p>8th International Symposium On Radiative Corrections (RADCOR 2007): Application Of Quantum Field Theory To Phenomenology, 1-6 Oct 2007, Florence, Italy, <i>QCD factorisation for top mass reconstruction</i></p>
Alexander Khodjamirian	4	<p>EPS Conference Manchester 19.-25. July 07 <i>V_{ub} determination using B → π form factor from Light-Cone Sum Rules</i></p>

Johann Kühn	4	The VIIIth Rencontres de Moriond session QCD AND HIGH ENERGY HADRONIC INTERACTIONS, March 17th - 24th, 2007, La Thuile, Italy, <i>Precise Quark Masses</i>
Debora Leone	4	Miniworkshop on Electric Dipole Moments, 9-10 Oct 2006, CERN, Switzerland, <i>KLOE measurement of hadronic cross section via Radiative Return</i>
Thomas Mannel	4	Super B Factory Workshop in Frascati, 13.11.-15.11. <i>Semileptonic Decays at a Super B Factory</i>
Peter Marquard	4	Challenges in Particle Phenomenology, Vienna 1.12.-3.12. <i>Theoretical Tool for Heavy Quark Physics</i>
Ulrich Nierste	4	8th International Symposium On Radiative Corrections (RADCOR 2007): Application Of Quantum Field Theory To Phenomenology, 1-6 Oct 2007, Florence, Italy, <i>Three-loop matching coefficient of the vector current</i>
Stefan Recksiegel	4	CTP Symposium On Supersymmetry At LHC: Theoretical And Experimental Prospectives, 11-14 Mar 2007, Cairo, Egypt, <i>Bounds on new physics from B_s mixing</i>
Matthias Steinhauser	4	4th International Conference On Flavor Physics, 24-28 Sep 2007, Beijing, China, <i>B_s mixing and supersymmetry with large $\tan \beta$</i>
David Straub	4	HQL06 Heavy Quarks and Leptons, München, October 16-20 2006 <i>organizer</i>
		Linear Collider Workshop, 6-10 November, Valencia, Spain, <i>Complete Higgs mass dependence of $t\bar{t}$ threshold production to order $\alpha\alpha_s$</i>
		Conference on Linear Colliders (LCWS 07), 30 May – 3 June 2007, Hamburg, Germany <i>Precise Charm and Bottom Quark Masses</i>
		Conference on Linear Colliders (LCWS 07), 30 May – 3 June 2007, Hamburg, Germany <i>Loops for ILC</i>
		Workshop on Frontiers in perturbative quantum field theory, 14-16 June 2007, Bielefeld, Germany, <i>Challenges to Perturbation Theory from LHC and ILC</i>
		8th International Symposium On Radiative Corrections (RADCOR 2007): Application Of Quantum Field Theory To Phenomenology, 1-6 Oct 2007, Florence, Italy, <i>Precise charm and bottom quark masses</i>
		Tenth European Meeting From the Planck Scale to the Electroweak Scale (Planck '07), 9-13 Jun 2007, Warsaw, Poland, <i>Challenging $SO(10)$ SUSY GUTs with family symmetries through FCNC processes</i>

Cecilia Tarantino	4	<p>Heavy Quarks and Leptons 2006, Munich, Germany, 16-20 Oct 2006, <i>B and K Physics in the Littlest Higgs Model with T-Parity</i></p> <p>Super B IV, Villa Mondragone, Monte Porzio Catone, Italy, 13-15 Nov 2006, <i>B and K Physics in the Littlest Higgs Model with T-Parity</i></p> <p>CKM 2006: Workshop on the Unitarity Triangle, Nagoya, Japan, 12-16 Dec 2006, <i>Flavour Physics in the Littlest Higgs Model with T-Parity</i></p> <p>Kaon International Conference (KAON'07) 21-25 May 2007, Frascati, Italy, <i>Beyond-SM expectations from very rare Kaon decays</i></p> <p>Lattice 2007 The XXV International Symposium on Lattice Field Theory, Regensburg, Germany, 30 Jul - 4 Aug 2007, <i>Light quark masses and decay constants from Twisted Mass QCD with $N_f = 2$</i></p>
Stéphanie Trine	4	<p>15th International Conference On Supersymmetry And The Unification Of Fundamental Interactions (SUSY07) 26 Jul-1 Aug 2007, Karlsruhe, Germany, <i>The Higgs sector of the MSSM and $B - \bar{B}$ mixing for large $\tan \beta$</i></p>
Selma Uhlig	4	<p>EPS HEP 2007 in Manchester, UK, July 19–25 2007, <i>Minimal Lepton Flavour Violation and Leptogenesis with exclusively low-energy CP violation</i></p>
Leonardo Vernazza	4	<p>DESY Theory Workshop, Hamburg, Germany, September 25-28 2007, <i>Hadronic B decays in the MSSM with large $\tan \beta$</i></p>
Michaela Albrecht	4	<p>2nd Workshop On Flavour Dynamics, 3-10 November 2007, Albufeira, <i>Challenging $SO(10)$ SUSY GUTs with family symmetries through FCNC processes</i></p> <p>DPG Frühjahrstagung, 3-7 Mar 2008, Freiburg</p> <p>Planck'08: From the Planck Scale to the Electroweak Scale, Barcelona</p>
Wolfgang Altmannshofer	4	<p>DPG Frühjahrstagung, Freiburg, 3-7 Mar 2008, <i>A Re-consideration of $b \rightarrow s\gamma$ in the Minimal Flavor Violating MSSM</i></p>
Guido Bell	4	<p>2nd Workshop on Flavour Dynamics, 3-10 Nov 2007, Albufeira, Portugal, <i>NNLO Vertex Corrections in Hadronic B Decays</i></p> <p>SCET Workshop 2008, 2-5 Apr 2008, Schloss Waldthausen near Mainz, Germany, <i>Modelling light-cone distribution amplitudes from non-relativistic bound states</i></p>

Paolo Beltrame	4	Deutsche Physikalische Gesellschaft Spring Meeting (Hadrons and Nuclei Session), Darmstadt, Germany <i>Measurement of $\sigma(e^+e^- \rightarrow \pi^+\pi^-\gamma)$ Cross Section with the KLOE detector and extraction of $F_\pi ^2$ and $a_\mu^{\pi\pi}$</i>
Martin Beneke	4	Flavour Physics and CP Violation (FPCP) 2008, Taipei, Taiwan, 5–9 May 2008 <i>Theoretical tools for B-decays: QCD factorization</i>
Joachim Brod	4	DPG Frühjahrstagung, 3-7 Mar 2008, Freiburg, Germany, Elektroschwache Korrekturen zu $K^+ \rightarrow \pi^+\nu\bar{\nu}$
Andrzej Buras	4	2nd Workshop on Flavour Dynamics, Albufeira, Portugal, 3-10 Nov, 2007, <i>FCNC Processes in the Littlest Higgs Model with T-Parity</i> Planck'08, Barcelona, Spain, 19-23 May, 2008, <i>Where to expect New Physics in Flavour Violating Processes</i> 2nd Capri Workshop on Theory, Phenomenology and Experiments in Heavy Flavour Physics, Capri, Italy, 16-18 Jun, 2008, <i>Few Messages on FCNC beyond MFV</i>
Achim Denig	4	International Workshop on e+e- Collisions from Φ to Ψ , 7-10 Apr 2008, Frascati, Italy, <i>BABAR Results on Hadronic Cross Section with ISR</i> International Workshop on Hadron Electromagnetic Form Factors, 12-23 May 2008, Trento, Italy, <i>Measurement of Timelike Form Factors using ISR</i>
Björn Duling	4	Symposium - Symmetries and Phases in the Universe, Irsee, Germany, 23–25 Jun 2008, <i>Posters: The Littlest Higgs without and with T-Parity, Flavour Physics in the Littlest Higgs with T-Parity</i>
Andre Hoang	4	RadCor 2008, 1-5 Oct 2007, Florence, Italy, <i>QCD Factorization for Top Quark Mass Reconstruction</i> International Conference on Flavor Dynamics, 26-30 Nov 2008, Albufeira, Portugal, <i>Factorization for Top Quark Mass Reconstruction: Part I</i> Joint Workshop on V_{ub} and V_{cb} at B-Factories, 14-16 Dec 2008, Heidelberg, Germany, <i>Definition and Extraction of Bottom and Charm Quark Masses</i> LHC-D Workshop on Top Physics, 8-9 Feb 2008, Bad Honnef, Germany, <i>Top Mass Reconstruction: A Factorization Approach</i> SCET 2008 Workshop, 3-5 Apr 2008, Mainz, Germany, <i>Top Jets in the Resonance Region: Factorization & NLL Analysis</i>

		TOP2008, International Conference on Top Quark Physics, May 16-24, 2008, La Biodola, Isola d'Elba, Italy, <i>Top quark mass Reconstruction: Factorization & Mass Definition</i>
Tobias Huber	4	CERN Flavor Theory Institute, May 2 - June 13, 2008, CERN, Geneva, Switzerland, <i>Heavy Quark Masses</i> Rencontres de Moriond 2008: QCD and High Energy Interactions, 8-15 Mar 2008, La Thuile, Italy, <i>Phenomenology of the rare decay $\bar{B} \rightarrow X_s l_+ l_-$</i>
Wolfgang Gradl	4	Workshop on Hard Exclusive Reactions, ECT*, 9-13 Jun 2008, Trento, Italy, <i>Measurement of time-like form factors with BABAR</i>
A. Khodjamirian	4	CERN Theory Institute <i>Flavour as a Window to New Physics at the LHC</i> , 5th May - 13th June 2008, CERN, <i>Applications of QCD Sum Rules to Flavour Physics</i> KITPC Program on <i>Advanced Topics in Flavor Physics</i> , 8-29 Jul 2008, Beijing, China, <i>Applications of QCD Sum Rules to Flavour Physics</i>
Yuichiro Kiyo	4	Radiative Corrections for the LHC and ILC, 14-16 May 2008, The State University of New York, Amherst, New York. <i>N^3LO $t\bar{t}$ threshold cross section</i>
Wolfgang Kluge	4	PHIPSI08, International Workshop on e^+e^- collisions from Φ to Ψ , 7-10 Apr 2008, Frascati, Italy, <i>Initial State Interaction: A success story</i>
Johann Kühn	4	PHIPSI08, International Workshop on e^+e^- collisions from Φ to Ψ , 7-10 Apr 2008, Frascati, Italy, <i>Precise Determinations of the Strong Coupling Constant</i> Loops and Legs 2008, 20-25 Apr 2008, Sondersheim, Germany, <i>Multi-Loop Calculations, Quark Masses and the Strong Coupling Constant</i>
Thomas Mannel	4	Continuous Advances in QCD (CAQCD-08), 15-18 May, 2008, Mineapolis, USA, <i>Hadronic Z- and τ-Decays in Order α_s^4</i> KITPC Program on <i>Advanced Topics in Flavor Physics</i> , 23 Jun. - 4 Jul 2008 Beijing, China, <i>Minimal Flavour Violation and Beyond</i>
Ulrich Nierste	4	2nd Workshop on Flavour Dynamics, 3-10 Nov 2007, Albufeira, Portugal, <i>CP violation in B_s mixing: SM and new physics</i> LHCb Heidelberg Workshop 2008, 12-14 Mar 2008, Neckarzimmern, Germany, <i>Constraining New Physics with B Mesons</i> V Incontro sulla Fisica del B, 3-4 Apr 2008, Cagliari, Italy, <i>Probing new physics with B_s decays</i>

Christoph Reisser	4	<p>Second Workshop on Theory, Phenomenology and Experiments in Heavy Flavour Physics, 16-18 Jun 2008, Anacapri, Italy, <i>Higgs hunting with B decays</i></p> <p>International Linear Collider Conference, June 9-12, 2008, Warsaw, Poland, <i>Finite Lifetime Effects in Top Quark Pair Production at Threshold</i></p>
Maximilian Stahlhofen	4	<p>DPG Frühjahrstagung 2008, March 3, 2007, Freiburg, Germany <i>Ultrasofte Renormierung der Potentiale in νNRQCD</i></p>
Matthias Steinhauser	4	<p>International Workshop on Heavy Quarkonium 2007, 17-20 Oct 2007, DESY Hamburg, Germany, <i>Quark masses and α_s from $R(s)$</i></p> <p>Continuous Advances in QCD, 15-18 May 2008, University of Minnesota, USA, <i>Heavy Quark Masses</i></p>
Leonardo Vernazza	4	<p>DPG Frühjahrstagung, Freiburg, Germany, 3-7 Mar 2008 <i>$B \rightarrow X_{c,j}K$ decays revisited</i></p>
Susanne Westhoff	4	<p>Workshop on Flavour Dynamics, 4-10 Nov 2007, Albufeira, Portugal, <i>Charged-Higgs Effects in Semileptonic $B \rightarrow \tau$ Decays</i></p> <p>Frühjahrskonferenz der Deutschen Physikalischen Gesellschaft, 3-7 Mar 2008, Freiburg, Germany <i>Geladene Higgsbosonen in $B \rightarrow D\tau\nu$: Differentielle Zerfallsraten</i></p>
Nora Brambilla	5	<p>XX European Conference Few Body Problems in Physics, Pisa, Italy (Sep. 10-14, 2007) <i>Effective Field Theories for Heavy Quarkonium.</i></p> <p>Matter to the deepest, Ustron, Poland (Sep.5-11, 2007) <i>Heavy Quarkonium Physics: Theoretical Status.</i></p> <p>Charm07, Cornell, USA (Aug.5-8 2007) <i>Extractions of α_s and M_q from onia.</i></p> <p>Hard QCD with antiprotons at GSI FAIR, Trento, Italy (July 16-20, 2007) <i>Charmonium Spectroscopy and QCD.</i></p> <p>Confinement: light and heavy quark domains, Trento, Italy (March 12-16, 2007) <i>EFTs for Heavy Quarkonium and Quark Dynamics.</i></p> <p>The Structure and Dynamics of Hadrons, Hirschegg, Austria (Jan 14-20, 2007) <i>The Structure and Dynamics of Systems with two Heavy Quarks.</i></p> <p>Heavy Quarks and Leptons, 8th Int. Conf., Munich, Germany (Oct. 16-20, 2006) <i>NRQCD and Quarkonia.</i></p> <p>QCD @ work 07, Martina Franca, Italy (June 16-20, 2007) <i>The QCD Potential.</i></p> <p>Confinement: light and heavy quark domains, Trento, Italy (March 12-16, 2007) <i>The QCD Potential.</i></p>
Antonio Vairo	5	

Giancarlo D'Ambrosio	5	The Structure and Dynamics of Hadrons, Hirscheegg, Austria (Jan 14-20, 2007) <i>Heavy quarkonium physics</i> . Kaon 2007, Frascati, Italy (May 21-25, 2007) <i>CPT and the Bell-Steinberger Relation</i> .
Luca Silvestrini	5	4th International Workshop on the CKM Unitarity Triangle, Nagoya, Japan (December 12-16, 2006) <i>Flavour Physics in SUSY beyond MFV</i> . Kaon 2007, Frascati, Italy (May 21-25, 2007) <i>Flavour physics and the role of Kaons</i> . 4th Workshop on Super B-Factor, Villa Mondragone, Italy (November 13-15, 2006) <i>SUSY effects in Flavour Physics</i> 5th Workshop on Super B-Factor, Paris, France (May 9-11, 2007) Model independent constraints on $\Delta F = 2$ operators.
Petros Dimopoulos	5	Lattice 2007, Regensburg, Germany (July 30- August 4 2007) <i>Renormalisation Constants of Bilinear Quark Operators with $N_f = 2$ Maximally Twisted Mass Fermions</i> .
Giancarlo Rossi	5	Lattice 2007, Regensburg, Germany (July 30- August 4 2007) <i>$O(a^2)$ cutoff effects in Wilson fermion simulations</i> .
Roberto Frezzotti	5	Lattice 2007, Regensburg, Germany (July 30- August 4 2007) <i>Scaling of hadronic observables in QCD with $N_f=2$ maximally twisted Wilson quarks</i> .
Gregorio Herdoiza	5	Lattice 2007, Regensburg, Germany (July 30- August 4 2007) <i>Quark mass dependence of the pion mass and decay constant using $N_f = 2$ maximally twisted fermions</i> .
Silvano Simula	5	Lattice 2007, Regensburg, Germany (July 30- August 4 2007) <i>Pseudo-scalar meson form factors with maximally twisted Wilson fermions at $N_f = 2$</i> .
Stefano Nicotri	5	Exploring QCD: Deconfinement, Extreme Environments and Holography, Cambridge, UK (August 2007) <i>Light glueballs in a holographic description of QCD</i> .
Fulvia de Fazio	5	International Workshop on Heavy Quarkonium 2007 17-20 October 2007, DESY Hamburg <i>Investigating the structure of $X(3872)$</i> .
Riccardo Faccini	5	XXIII International Symposium on Lepton and Photon Interactions at High Energy, Daegu, Korea (Aug 13-18, 2007) <i>Heavy Quarkonium Spectroscopy</i> .
Mario Antonelli	5	XXIII International Symposium on Lepton and Photon Interactions at High Energy, Daegu, Korea (Aug 13-18, 2007) <i>Precision SM tests with Kaons</i> .

Federico Mescia	5	<p>Europhysics Conference on High Energy Physics, Manchester, UK (19-25 July 2007) <i>V_{us} determination from K_{l3} and K_{l2} decays.</i></p>
Gino Isidori	5	<p>XXIII International Symposium on Lepton and Photon Interactions at High Energy, Daegu, Korea (Aug 13-18, 2007) <i>Flavour Physics in the LHC era</i></p> <p>15th International Conference On Supersymmetry And The Unification Of Fundamental Interactions, Karlsruhe, Germany (26 Jul - 1 Aug 2007) <i>Large $\tan \beta$ effects in Flavour Physics.</i></p> <p>Kaon 2007, Frascati, Italy (May 21-25, 2007) <i>Conference Summary.</i></p> <p>5th meeting of the Workshop on Flavour in the era of the LHC CERN, Switzerland (March 26-28, 2007) <i>Benchmark scenarios</i></p> <p>CTP Symposium On Supersymmetry At LHC: Theoretical And Experimental Perspectives, , Cairo, Egypt (11-14 Mar 2007) <i>Supersymmetric effects in Flavour Physics.</i></p> <p>4th Workshop on Super B-Factory, Villa Mondragone, Italy (November 13-15, 2006) <i>Minimal Lepton Flavour Violation.</i></p> <p>4th International Workshop on the CKM Unitarity Triangle, Nagoya, Japan (December 12-16, 2006) <i>Summary of WG6: CKM fits and New Physics.</i></p>
Nora Brambilla	5	<p>II Workshop on Heavy Flavour Physics (Capri, Italy, 16-18 June 2008) <i>Heavy Quarkonium and exotic states</i></p> <p>Workshop on Quark Gluon Plasma and Spectral Functions (BNL, USA, April 23-25 2008) <i>$Q\bar{Q}$ and $Q\bar{Q}Q$ potentials at $T=0$</i></p>
Antonio Vairo	5	<p>II Workshop on Heavy Flavour Physics (Capri, Italy, 16-18 June 2008) <i>Heavy Quarkonium and exotic states</i></p> <p>Workshop on Quark Gluon Plasma and Spectral Functions (BNL, USA, April 23-25 2008) <i>Static $Q\bar{Q}$ pairs at finite temperature</i></p> <p>QWG 2007 (DESY, Germany, 17-20 Oct 2007) <i>The QCD static potential at N^4LO</i></p>
Luca Silvestrini	5	<p>Flavour as a Window to New Physics at the LHC (CERN, Switzerland, 5 May -13 June 2008) <i>Theory Issues in Measuring γ</i></p> <p>II Workshop on Heavy Flavour Physics (Capri, Italy, 16-18 June 2008) <i>First evidence of new physics in B_s mixing and its implications</i></p>

Fulvia de Fazio	5	Lattice 2008, (Williamsburg, USA, 14-19 July 2008) <i>Lattice QCD and New Physics searches: present and future</i> SCET 2008 (Mainz, April 2008) <i>SCET sum rules for $B \rightarrow P$ and $B \rightarrow V$ transition form factors</i> QCD 2008 (Montpellier, July 2008) <i>New Open and Hidden Charm Spectroscopy</i>	
Javier Virto	5	QCD 2008 (Montpellier, July 2008) <i>Pade Unitarizations: a critical look</i>	ESR
Jernej Kamenik	5	II Workshop on Heavy Flavour Physics (Capri, Italy, 16-18 June 2008) <i>MFV at large $\tan \beta$</i> Planck 2008 (Barcelona, Spain, 19-23 May 2008) <i>Low-energy signals of MFV</i>	ER
Gino Isidori	5	NOVE 2008 (Venice, Italy, April 15-18 2008) <i>LFV in charged leptons: the new challenge of flavour physics</i> Symmetries and Phases in the Universe (Kloister Irsee, Germany, 23-25 June 2008) <i>The breaking of CP and Flavour Symmetries</i>	
Antonello Polosa	5	International Workshop on e^+e^- collisions from Φ to Ψ (Frascati, Italy, 7 - 10 April 2008) <i>A Theory of scalar mesons</i>	
Federico Mescia	5	FPCP 2008 (Taipei, Taiwan, May 5-9 2008) <i>Kaon Physics</i>	
Henryk Czyż	6	Symposium "Precision calculations for Hadron and Lepton Colliders"(Hans Fest), 23-24 November 2006, Karlsruhe, Germany, <i>Radiative Return: 9 years of fruitful adventure</i> XXXI International Conference of Theoretical Physics, Matter To The Deepest: Recent Developments In Physics of Fundamental Interactions, Ustroń, 5-11 September 2007, Poland, <i>New developments in the PHOKHARA MC generator</i> XXXI International Conference of Theoretical Physics, Matter To The Deepest: Recent Developments In Physics of Fundamental Interactions, Ustroń, 5-11 September 2007, Poland, <i>organiser</i>	
Janusz Gluza	6	XXXI International Conference of Theoretical Physics, Matter To The Deepest: Recent Developments In Physics of Fundamental Interactions, Ustroń, 5-11 September 2007, Poland, <i>organiser</i>	
Maria Krawczyk	6	International Linear Collider (ILC) Workshop (ILC-ECFA and GDE Joint Meeting) Valencia, 6-10 November 2006, <i>convener</i>	

		<p>Symposium "Precision calculations for Hadron and Lepton Colliders"(Hans Fest), 23-24 November 2006, Karlsruhe, Germany, <i>Precision calculation for 2HDM</i></p> <p>La Thuile "Moriond QCD", 16-24 March 2007, <i>convener</i></p> <p>Linear Collider Workshop 2007: LCWS2007 and ILC2007, DESY, Hamburg, Germany, May 30 - June 3, 2007, <i>convener</i></p> <p>Linear Collider Workshop 2007: LCWS2007 and ILC2007, DESY, Hamburg, Germany, May 30 - June 3, 2007, <i>Heavy Neutral MSSM higgses at the Photon Collider - a comparison of two analyses</i></p> <p>Linear Collider Workshop 2007: LCWS2007 and ILC2007, DESY, Hamburg, Germany, May 30 - June 3, 2007, <i>The charged Higgs boson mass in the 2HDM: decoupling and CP violation</i></p> <p>Tenth European Meeting From the Planck Scale to the Electroweak Scale Warsaw, Poland, June 9 - 13, 2007, <i>organiser</i></p> <p>Photon2007, Paris, 9-11 July 2007, <i>Introduction to Photon2007</i></p> <p>Cinvestav (Mexico City) Advanced Summer School in Physics Frontiers in Contemporary Physics 11- 13 July 2007, <i>4 Lectures on "Physics Reach at Future Colliders"</i></p> <p>XXXI International Conference of Theoretical Physics "Matter To The Deepest: Recent Developments In Physics of Fundamental Interactions, Ustroń, Poland, 5-11 September 2007, <i>Physics at the ILC</i></p> <p>Florence [GGI] "ILC physics" 12-14 September 2007 <i>Physics at PLC</i></p>
Mikołaj Misiak	6	<p>FLAVOUR IN THE ERA OF THE LHC a Workshop on the interplay of flavour and collider physics,4th meeting (WGs): CERN, Oct 9-11 2006, <i>$B \rightarrow X_s \gamma$ at NNLO</i></p>
Sławomir Wycech	6	<p>XXX Mazurian Lakes Conference on Physics, Nuclear Physics and Fundamental processes, 02-09 September 2007, Piaski, Poland, <i>Nuclear states of strange mesons</i></p>
Henryk Czyż	6	<p>EuroFlavour '07 14-16 November 2007 Univ. Paris-Sud 11, Orsay <i>Recent developments in the PHOKHARA generator</i></p>

		<p>Topical Workshop on The Muon Magnetic Dipole Moment $(g - 2)_\mu$, 25 and 26 October 2007 School of Physics and Astronomy The University of Glasgow <i>Theoretical aspects and status of Monte Carlo programs for Radiative Return analyses</i></p> <p>PHI PSI 08 International Workshop on e+e- collisions from Phi to Psi Laboratori Nazionali di Frascati, Italy, 7 - 10 April 2008 <i>Status of PHOKHARA and its theoretical accuracy</i></p>	
Janusz Gluza	6	<p>Loops and Legs in Quantum Field Theory 20-25.04.2008, Sondershausen, Germany <i>Two-loop Bhabha scattering with $n_f = 2$</i></p>	
Konstantin A. Kanishev	6	<p>FLAVIANet Spring School in Nuclear, Subnuclear and Astroparticle Physics, INFN, Frascati, May 12 - 16, 2008. <i>Charge asymmetry of lepton production</i></p>	ESR
Maria Krawczyk	6	<p>Hiroshima, International Workshop on Physics and Technologies of Laser-Electron Interaction toward the ILC, Japan 11-15 Dec 2007 <i>organiser</i></p> <p>Hiroshima, International Workshop on Physics and Technologies of Laser-Electron Interaction toward the ILC, Japan 11-15 Dec 2007 <i>Physics at PLC</i></p> <p>Hiroshima, International Workshop on Physics and Technologies of Laser-Electron Interaction toward the ILC, Japan 11-15 Dec 2007 <i>Higgs Physics at PLC</i></p> <p>Warsaw, TOK meeting 13-16 February 2008 <i>Dark Scalar Doublet</i></p> <p>LHC workshop, 21-22 April, Warsaw, <i>organiser</i></p> <p>ECFA-ILC, 9-12 June, 2008, Warsaw, <i>organiser</i></p> <p>ECFA-ILC, 9-12 June, 2008, Warsaw, <i>PLC</i></p>	
Mikolaj Misiak	6	<p>Albuferia, Portugal, "2nd workshop on Flavour Dynamics", 3-10.11,2007 <i>Perturbative contributions to $B \rightarrow X_s \gamma$</i></p> <p>CERN Theory Institute "Flavour as a Window to New Physics at the LHC", 24-31.05,2008 <i>Rare B decays: Theory</i></p> <p>Melbourne, Australia, "IX International Conference on Heavy Quarks and Leptons" (HQL08), 5-9.06,2008 <i>QCD calculations of radiative B decays</i></p>	
Zbigniew Was	6	<p>EuroFlavour '07 14-16 November 2007 Univ. Paris-Sud 11, Orsay <i>Spin amplitudes and gauge-invariance: from PHOTOS Monte Carlo to QCD</i></p> <p>PHI PSI 08 International Workshop on e+e- collisions from Phi to Psi Laboratori Nazionali di Frascati, Italy, 7 - 10 April 2008 <i>PHOTOS Monte Carlo and its theoretical accuracy</i></p>	

Johan Bijmens	7	FLAVIANet Kaon WG meeting, 18-19 May 2007, Frascati, Italy, <i>organizer, $K_{\ell 3}$ decays at p^6 in Chiral Perturbation Theory</i> Kaon International Conference (KAON'07) 21-25 May 2007, Frascati, Italy, <i>Radiative and Semileptonic Kaon Decays in Chiral Perturbation Theory</i>
Pekko Metsä	7	4th International Pion-Nucleon PWA Workshop 26-29 Jun 2007, Helsinki, Finland, <i>Forward analysis of pion-nucleon scattering, organizer</i>
Mikko Sainio	7	4th International Pion-Nucleon PWA Workshop 26-29 Jun 2007, Helsinki, Finland, <i>The GMO sum rule, organizer</i>
Johan Bijmens	7	25th International Symposium On Lattice Field Theory, 30 Jul-4 Aug 2007, Regensburg, Germany, <i>Quark Mass Dependence at Two Loops for meson Properties</i>
Jonna Koponen	7	25th International Symposium On Lattice Field Theory, 30 Jul-4 Aug 2007, Regensburg, Germany, <i>P- and D-wave spin-orbit splittings in heavy-light mesons</i>
Johan Bijmens	7	11th International Conference On Meson-Nucleon Physics And The Structure Of The Nucleon (MENU 2007), 10-14 Sep 2007, Julich, Germany, <i>η and η' physics</i>
Pekko Metsä	7	11th International Conference On Meson-Nucleon Physics And The Structure Of The Nucleon (MENU 2007), 10-14 Sep 2007, Julich, Germany, <i>Pion-Nucleon Partial Wave Analysis with Fixed-t Analyticity Constraints</i>
Mikko Sainio	7	11th International Conference On Meson-Nucleon Physics And The Structure Of The Nucleon (MENU 2007), 10-14 Sep 2007, Julich, Germany, <i>The GMO Sum Rule Revisited</i>
Johan Bijmens	7	FlaviAnet Kaon Workshop, June 12th to 14th 2008, Villa Orlandi, Anacapri, Italy, <i>Isospin breaking at order p^6 in $K_{\ell 3}$ decays</i>
Tri-Nang Pham	8	1st Workshop On Theory, Phenomenology And Experiments In Heavy Flavor, 29-31 May 2006, Anacapri, Italy, <i>$B \rightarrow \pi\pi$ decays</i> QCDWork 2007, 16-20 June 2007, Marina Franca, Italy, <i>Two-photon decay of heavy quarkonium from heavy quark spin symmetry</i>
Sébastien Descotes-Genon	8	European Physical Conference on High-Energy Physics, 19-25 Jul 2007, Manchester, UK, <i>Combining QCD factorisation and flavour symmetries in B_d and B_s decays and $\pi\pi$ and πK revisited in three-flavour ReChPT</i>

		<p>Lattice 07, XXV International Symposium on lattice field theory, 30 Jul - 4 Aug 2007, Regensburg, Germany, <i>How far can you go ? Surprises and pitfalls in three-flavour extrapolations</i></p> <p>4th international workshop on the CKM unitarity triangle, 12-16 Dec 2007, Nagoya, Japan, <i>Combining QCD factorisation and flavour symmetries in $B_{d,s} \rightarrow K\bar{K}$ and Heavy decays, resonances and K-matrix</i></p>	
Damir Becirevic	8	<p>Flavour Physics and CP-violation 07, 12-16 May 2007, Bled, Slovenia, <i>Progress in Lattice QCD</i></p> <p>Lattice 07, XXV International Symposium on lattice field theory, 30 Jul - 4 Aug 2007, Regensburg, Germany, <i>Use and misuse of ChPT for lattice QCD</i></p> <p>International Conference on Hadron Physics Troia 2007, 30 Aug - 3 Sep 2007, Canakkale, Turkey, <i>An overview of recent results from lattice QCD</i></p>	
Emilie Passemar	8	<p>Kaon International Conference (KAON'07) 21-25 May 2007, Frascati, Italy, <i>Dispersive representation and shape of $K_{\ell 3}$ form factors</i></p>	ESR
Jan Stern	8	<p>Kaon International Conference (KAON'07) 21-25 May 2007, Frascati, Italy, <i>Did one observe couplings of right-handed quarks to W ?</i></p>	
Benjamin Haas	8	<p>Lattice 07, XXV International Symposium on lattice field theory, 30 Jul - 4 Aug 2007, Regensburg, Germany, <i>Improving the extraction of semileptonic form factors from LQCD</i></p>	ESR
Laurent Lellouch	8	<p>Domain Wall Fermions at Ten Years, 15-17 Mar 2007, Brookhaven National Laboratory, N.Y. USA., <i>Chiral behavior in mixed action calculations with 2 + 1 sea quark flavors</i></p> <p>Lattice 07, XXV International Symposium on Lattice Field Theory, 30 Jul - 4 Aug 2007, Regensburg, Germany, <i>Chiral behavior of pseudo-Goldstone boson masses and decay constants in 2 + 1 flavor QCD</i></p>	
Marian Kolesar	8	<p>Hadron structure 2007, 3-7 Sep 2007, Modra-Harm'onia, Slovakia, <i>The η decay constant in resummed ChPT</i></p>	
Jaroslav Trnka	8	<p>Hadron structure 2007, 3-7 Sep 2007, Modra-Harm'onia, Slovakia, <i>Loops in resonance chiral theory</i></p> <p>XIXth Petrov school 2007, 22 Jun - 3 Jul 2007, <i>First order formalism for spin-1 fields</i></p>	
S. Descotes-Genon	8	<p>Joint CLEO-BES-BELLE-Babar workshop, 26-27 Nov 2007, Beijing, China, <i>Charm and CKM, now and in the future</i></p>	

		1st workshop of the French-China Particle Physics Laboratory, 14-18 Jan 2008, Marseille, France, <i>The CKMFitter-BES collaboration</i> Rencontres de Moriond 2008, electroweak session, 1-8 March 2008, La Thuile, Italy, <i>CKMFitter 2008</i> Kaon Workshop 2008, 12-14 June 2008, Anacapri, Italy, <i>Dispersive approach to isospin breaking in $\pi\pi$ scattering</i>
T.N. Pham	8	Joint Meeting Heidelberg-Liege-Paris-Wroclaw: Three Days of Strong Interactions and Astrophysics (HLPW08), Spa, Liege, Belgium, 6-8 March 2008, Liège, Belgium, <i>Two-photon decay of pseudoscalar quarkonia</i> QCD 2008, 7-12 July 2008, Montpellier, France, <i>$B \rightarrow K\eta, K\eta'$ decays</i>
B. Moussalam	8	Kaon Workshop 2008, 12-14 June 2008, Anacapri, Italy, <i>Chiral expansions of the π^0 lifetime</i>
H. Sazdjian	8	Joint Meeting Heidelberg-Liege-Paris-Wroclaw: Three Days of Strong Interactions and Astrophysics (HLPW08), Spa, Liege, Belgium, 6-8 March 2008, Liège, Belgium, <i>Integral equation for gauge invariant quark Green's function</i>
L. Lellouch	8	Lattice 08, XXVI International Symposium on lattice field theory, 14-19 July 2008, Jefferson Lab, Williamsburg, Virginia, USA. <i>Kaon physics review</i>
J. Charles	8	Second Workshop on Theory, Phenomenology and Experiment in Heavy Flavour Physics, 15-19 June 2008, Anacapri, Italy, <i>CKMfitter update and short status of New Physics in $B-\bar{B}$ mixing</i>
B. Haas	8	Rencontres de Moriond 2008, QCD and high-energy interactions, 8-15 March 2008, La Thuile, Italy, <i>Charmed meson decays at Lattice QCD</i>
B. Malaescu	8	Rencontres de Moriond 2008, QCD and high-energy interactions, 8-15 March 2008, La Thuile, Italy, <i>Improved α_s from τ decays</i> QCD 08, 14th International QCD conference, 7-12 July 2008, Montpellier, France, <i>Improved α_s from τ decays</i>
M. Zdrahal	8	Kaon Workshop 2008, 12-14 June 2008, Anacapri, Italy, <i>Dispersive approach to isospin breaking in $K \rightarrow 3\pi$</i>
Augusto Ceccucci	9	5th Workshop On Flavour in The Era Of The LHC, 26-29 March 2007, Geneva, Switzerland <i>Organizer</i> KAON'07 May 21-25 2007, Frascati, Italy, <i>Round Table on Future Initiatives</i>

Gilberto Colangelo	9	<p>Mini-Workshop on the extraction of the $\pi\pi$ scattering lengths from K_{e4} decays, 6-7 March 2007, University of Bern, Switzerland <i>Organizer</i> http://www.itp.unibe.ch/Ke4/</p> <p>Vienna Central European Seminar on particle physics and quantum field theory, 1-3 December 2006, Vienna Austria <i>Hadronic vacuum polarization contributions to $(g - 2)_\mu$</i></p> <p>KAON'07, May 21-25, 2007, Frascati, Italy <i>Theoretical progress on $\pi\pi$ scattering lengths and phases</i></p> <p>Hadron physics on the Lattice, 10-11 September 2007, Milos, Greece <i>Status of chiral extrapolations</i></p>
Stephan Dürr	9	<p>XXV International Symposium on Lattice Field Theory, 30 July - 4 Aug 2007 Regensburg, Germany <i>The art of smearing – can one reach $M_\pi = 140$ MeV in quenched QCD with clover quarks ?</i></p>
Jürg Gasser	9	<p>QCD and Few-Hadron systems Nov. 13-17, 2006, Bad Honnef, Germany, <i>Cusps in $K \rightarrow 3\pi$ decays</i></p> <p>V Kaon Miniworkshop, December 12, 2006, CERN, Switzerland <i>$\pi\pi$ rescattering in $K \rightarrow 3\pi$ decays: status of theory</i></p> <p>KAON'07, May 21-25, 2007, Frascati, Italy <i>Theoretical Progress on Cusp effect in K_{e4} decays</i></p> <p>MENU 2007, Sept. 10–14, 2007, Jülich Germany <i>Effective Quantum Field Theories</i></p>
Leonardo Giusti	9	<p>XXV International Symposium on Lattice Field Theory, 30 July - 4 Aug 2007 Regensburg, Germany <i>Theta dependence of the vacuum energy in the SU(3) gauge theory from the lattice</i></p>
Ulrich Haisch	9	<p>Ringberg Phenomenology Workshop on Perspectives in Heavy Flavour Physics, 1–6 October 2006 Ringberg Castle, Rottach-Egern, Germany <i>Rare decays</i></p> <p>4th Workshop on the CKM Unitarity Triangle (CKM2006) 12–16 December 2006, Nagoya, Japan <i>convener</i></p> <p>XLII Rencontres de Moriond QCD and High Energy Hadronic Interactions, 17–24 March 2007, La Thuile, Italy <i>Recent developments in $B \rightarrow X_s \gamma$</i></p> <p>15th International Workshop on Deep-Inelastic Scattering and Related Subjects (DIS2007) 16–20 April 2007, Munich, Germany <i>How to kill a penguin</i></p> <p>KAON'07, May 21-25, 2007, Frascati, Italy <i>Rare K-(vs.) B-decays</i></p>

Tobias Hurth	9	<p>SuperB IV, 13-15 November 2006, Monte Porzio Catone, Italy <i>General Questions on the Physics Case of a SuperB Factory</i></p> <p>4th Workshop On Flavour in The Era Of The LHC, 9-11 October 2006, Geneva, Switzerland <i>Organizer</i></p> <p>5th Workshop On Flavour in The Era Of The LHC, 26-29 March 2007, Geneva, Switzerland <i>Organizer</i></p> <p>Pheno 2007 Symposium: Prelude to the LHC, 6-9 May 2007, Madison, USA <i>New Physics in the B Sector</i></p> <p>SuperB V, 9-11 May 2007, Paris, France <i>Flavour in the Era of the LHC</i></p> <p>Les Houches 2007: Physics at TeV Colliders, 16. June 2007 Les Houches, France <i>Interplay of High-p_T and Flavour Physics</i></p>
Heinrich Leutwyler	9	<p>CB@MAMI collaboration meeting 4.10.2006, Basel, Switzerland <i>Mass and width of the sigma meson</i></p> <p>Rencontres de Moriond, “QCD and Hadronic Interactions” 17-24 March 2007, La Thuile, Italy, <i>Recent developments in light flavour hadron physics</i></p> <p>International School of Subnuclear Physics, 28.8-7.9.2007 Erice, Italy, <i>Physics of the light quarks</i></p> <p>4th International Conference on Flavour Physics 24.-28.9.2007, Beijing, China <i>Recent developments in light flavour hadron physics</i></p> <p>Mini-Workshop on Chiral Dynamics and Light Flavour Physics 29-30 September 2007, Beijing, China <i>$\pi\pi$ scattering</i></p>
Tatsuya Nakada	9	<p>4th Workshop on the CKM Unitarity Triangle (CKM2006) 12–16 December 2006, Nagoya, Japan <i>Future Flavour Physics at CERN</i></p> <p>2nd International Workshop on B Factory and New Measurements December, 2006, Nara, Japan. <i>CERN LHC Experiments and B Physics Programme</i></p> <p>5th Workshop On Flavour in The Era Of The LHC, 26-29 March 2007, Geneva, Switzerland <i>LHC Heavy Flavour Programme</i></p> <p>Super Symmetry in 2010, June, 2007 Sapporo, Japan <i>LHCb Status and Physics</i></p> <p>13th International Symposium on Particle, String and Cosmology July, 2007 London, Great Britain <i>CP Violation and Quark Flavour Experiment</i></p> <p>2nd Time and Matter Conference Bled, Slovenia, August, 2007 <i>CP Violation and Flavour Physics Experiments in the LHC Era</i></p>

Christopher Smith	9	National Meeting for Particle Physics and Cosmology, September, 2007 guas de Lindia, Brazil, <i>CP Violation and Quark Flavour Experiment</i> 4th Workshop on the CKM Unitarity Triangle (CKM2006) 12–16 December 2006, Nagoya, Japan <i>Review of rare K decays in the Standard Model</i> KAON'07, May 21-25, 2007, Frascati, Italy <i>Recent progress on supersymmetric effects in rare K decays</i> 15th International Conference on Supersymmetry (SUSY 2007), 25 Jul - 1 Aug 2007, Karlsruhe, Germany <i>Recent progress on supersymmetric effects in rare K decays</i>	
Simone Bifani	9	PASCOS 08 2-6 June, 2008, Waterloo, Ontario, Canada, <i>Low energy QCD and ChPT tests at NA48/2</i>	ESR
Gilberto Colangelo	9	EuroFlavour 07, Flavianet annual meeting, 13-16 November 2007, Orsay, France <i>IAC member</i> Séminaire Transalpin, 10-15 February 2008, Lyon, France, <i>Introduction to chiral perturbation theory</i> PHI-PSI-08, 7-10 April 2007, Frascati, Italy <i>Chiral symmetry, $\pi\pi$ scattering and a_μ</i> Flavour as a Window to New Physics at the LHC, CERN, May 5, June 13 2008 <i>The MSSM with minimal flavour violations and its running</i> XXVI International Symposium on Lattice Field Theory July 14-19, 2008, Williamsburg, Virginia, USA <i>IAC member</i> Flavianet annual meeting, 22-26 September 2008, IPPP, Durham, UK <i>IAC member</i> Bound States and Resonances in Effective Field Theories, September 29 - October 3, 2008, ECT* Trento, Italy <i>$\pi\pi$ scattering</i>	
Jürg Gasser	9	Compass-Workshop, 2-3 April 2008 Turin, Italy <i>Chiral Perturbation Theory at COMPASS</i>	
Peter Hasenfratz	9	Workshop Perspectives and challenges for full QCD lattice calculations, 5-9 May 2008 Trento, Italy, <i>The Delta Regime of Goldstone Bosons</i>	
Tobias Hurth	9	YETI winter school, 7.-9. January 2008, <i>New Physics Search in Flavour Physics</i> SuperB VI, 9.-11. January 2008, Valencia, Spain, <i>Opportunities in $b \rightarrow s\gamma$ and $b \rightarrow s\ell^+\ell^-$</i> Workshop on Heavy Flavour Physics, 16.-18. June 2008, Capri, Italy, <i>New Observables in the Exclusive Decay $\bar{B} \rightarrow \bar{K}^{*0}\ell^+\ell^-$</i>	

Heinrich Leutwyler	9	<p>International Conference on High Energy Physics, 29. July-5. August 2008 Philadelphia, USA, invited plenary talk: <i>Heavy Flavour Theory</i></p> <p>Workshop on Scalar Mesons and Related Topics, 11-16 February 2008 Lisbon, Portugal <i>Model-independent determination of the sigma pole</i></p> <p>QCD08, July 10, 2008 Montpellier, France <i>IAC member – Recent developments in the physics of the light quarks</i></p> <p>Summer School on Flavor Physics, 13-25 July 2008, Benasque, Spain <i>Introduction to Chiral Perturbation Theory</i></p> <p>Quark Confinement and the Hadron Spectrum, 1-6 September 2008 Mainz, Germany, <i>IAC member</i></p>	
Ferenc Niedermayer	9	<p>Workshop Perspectives and challenges for full QCD lattice calculations, 5-9 May 2008 Trento, Italy, <i>CD with the fixed point action in the epsilon regime</i></p>	
Emilie Passemar	9	<p>BEACH2008, 22-28 June 2008, Columbia, South Carolina <i>Activities within the Kaon Working Group of Flavianet</i></p>	ESR
Volker Pilipp	9	<p>Workshop on Flavour Dynamics, 3-10 November 2007, Albufeira, Portugal, <i>Hard spectator interactions in $B \rightarrow \pi\pi$</i></p>	
Christopher Smith	9	<p>BEACH2008, 22-28 June 2008, Columbia, South Carolina, <i>Flavianet Network Activities</i></p> <p>International Conference on High Energy Physics, 29 July - 5 August 2008, Philadelphia, USA, <i>Minimal Flavor Violation as an alternative to R-parity</i></p>	
S. Fajfer, B. Golob, P. Križan	10	<p>5th Flavour Physics and CP Conference (FPCP 2007), 12-16 May 2007, Bled, Slovenia, http://www-f9.ijs/fpcp07 <i>organizers</i></p>	
Gerhard Ecker	10	<p>Matter to the Deepest – Recent Developments in Physics of Fundamental Interactions, 5-11 September 2007, Ustron, Poland, <i>Progress in Chiral Perturbation Theory</i></p>	
Bostjan Golob	10	<p>Joint Meeting of Pacific Region Particle Physics Communities (JPS/DPF 2006), 29 October - 3 November 2006, Honolulu, HI, <i>Searches for D^0-\bar{D}^0 mixing at Belle</i></p> <p>Lepton-Photon 2007, 13-18 August 2007, Daegu, Korea, <i>Recent result on D^0 mixing from Belle</i></p>	
Peter Križan	10	<p>XXVII Physics in Collision, June 26-29 June 2007, Annecy, France, <i>D mixing and CPV (Belle)</i></p>	

Jernej Kamenik	10	HEP2007, 19-25 July 2007, Manchester, England, <i>Chiral behavior of the heavy meson mixing amplitudes in the standard model and beyond</i>	
Svjetlana Fajfer	10	The 4th International Conference on Flavor Physics, 24-28 September 2007, Beijing, China, <i>Impact of positive parity mesons on charm meson decays</i> International Conference on Hadron Physics TROIA '07, 30 August - 3 September 2007, Canakkale, Turkey, <i>Messages from inclusion of positive parity heavy mesons in heavy meson chiral perturbation theory</i>	
Jure Zupan	10	SCET07 workshop, 29-31 March 2007, LBNL, Berkeley, USA, <i>Semiinclusive hadronic B decays in SCET</i> LHCb-UK Meeting 2007, 24-26 September 2007, IPPP, Collingwood College, Durham University, Durham, UK, <i>Review of γ extractions</i> 5th Flavor Physics and CP Violation Conference (FPCP 2007), 12-16 May 2007, Bled, Slovenia, <i>Predictions for $\sin 2(\beta/\phi_1)_{eff}$ in $b \rightarrow s$ penguin dominated modes</i> 4th International Workshop on the CKM Unitarity Triangle (CKM 2006), 12-16 Dec 2006, Nagoya, Japan, <i>Penguin pollution estimates relevant for ϕ_{12}/α extraction and γ from $B \rightarrow DK$</i>	
Helmut Neufeld	10	FLAVIANet Kaon Workshop, Anacapri, Italy, 12-14 June 2008, <i>The $K_{\ell 3}$ scalar form factors in the standard model</i>	
Martin Zdráhal	10	FLAVIANet Kaon Workshop, Anacapri, Italy, 12-14 June 2008, <i>Dispersive approach to the cusp in $K \rightarrow 3\pi$</i>	ESR
Rainer Sommer	11	XXV International Symposium on Lattice Field Theory (Lattice 2007), 30 Jul - 4 Aug 2007, Regensburg, Germany, <i>Preparing for $N_f = 2$ simulations at small lattice spacings</i> Workshop on Hadron physics on the Lattice, 10 - 11 Sep 2007, Milos, Greece, <i>Determination of quark masses</i>	
Damiano Guazzini	11	XXV International Symposium on Lattice Field Theory (Lattice 2007), 30 Jul - 4 Aug 2007, Regensburg, Germany, <i>The B-meson mass splitting from non-perturbative quenched lattice QCD</i> 8th Meeting of SFB/TR 9 Computational Particle Physics, 22 Feb - 23 Feb 2007, Aachen, Germany, <i>b-quark mass and B_s decay constant from a combination of static quarks and QCD on the lattice</i>	

Benoît Blossier	11	XII LNF Spring School, 14 – 18 May 2007, Frascati, Italy, <i>Towards a numerical solution to the "1/2 vs. 3/2" puzzle</i>
		XXV International Symposium on Lattice Field Theory (Lattice 2007), 30 Jul - 4 Aug 2007, Regensburg, Germany, <i>Twisted mass QCD in the charm sector</i>
Nicolas Garron	11	XXV International Symposium on Lattice Field Theory (Lattice 2007), 30 Jul - 4 Aug 2007, Regensburg, Germany, <i>FB at the 1/m order of HQET</i>
Oliver Witzel	11	XXV International Symposium on Lattice Field Theory (Lattice 2007), 30 Jul - 4 Aug 2007, Regensburg, Germany, <i>Spectral properties of the non-hermitean Wilson operator in the Schroedinger functional</i>
Shinji Takeda	11	XXV International Symposium on Lattice Field Theory (Lattice 2007), 30 Jul - 4 Aug 2007, Regensburg, Germany, <i>Automatic generation of vertices for the Schroedinger functional</i>
Oliver Bär	11	XXV International Symposium on Lattice Field Theory (Lattice 2007), 30 Jul - 4 Aug 2007, Regensburg, Germany, <i>The vector and axial vector current in Wilson ChPT</i>
		Lattice QCD, Chiral Perturbation Theory and Hadron Phenomenology October 2 - 6, 2006 Trento, Italy <i>Lattice QCD with mixed actions: Overlap fermions on a twisted mass sea</i>
Karl Jansen	11	XXV International Symposium on Lattice Field Theory (Lattice 2007), 30 Jul - 4 Aug 2007, Regensburg, Germany, <i>Stout seaming for twisted mass fermions</i>
Akaki Rusetsky	11	Workshop on QCD and few-hadron systems, 13-17 November 2006, Bad Honnef, Germany <i>ChPT in a finite volume: the Δ-resonance</i>
		Seminar at the University of Basel, Switzerland, 24 May 2007 <i>$K \rightarrow 3\pi$ decays in effective field theories</i>
		Workshop on Lattice QCD, ChPT and Hadron Phenomenology, 2-6 October 2006, Trento, Italy <i>The Δ-resonance in a finite volume</i>
		IX International conference in Hypernuclear and Strange Particle Physics, 10-14 October 2006, Mainz, Germany <i>Kaon-nucleon scattering lengths from kaonic deuterium experiments</i>
		EuroFlavour06, 2-4 November 2006, Barcelona, Spain <i>$K \rightarrow 3\pi$ decays in effective field theories</i>
		EuroFlavour06, 2-4 November 2006, Barcelona, Spain <i>The Δ-resonance in a finite volume</i>

Ulf-G. Meißner	11	<p>Workshop on the physics of excited nucleons (NSTAR 2007), 5-8 September 2007, Bonn, Germany <i>The Δ-resonance in a finite volume</i></p> <p>11th International Conference on Meson-Nucleon Physics and the Structure of the Nucleon, 10-14 September 2007, Jülich, Germany <i>Effective field theory framework for $\bar{K}d$ scattering</i></p> <p>ECT* – I3HP Workshop on Lattice QCD, Chiral Perturbation Theory, and Hadron Phenomenology, October 2006, Trento, Italy <i>Thoughts on chiral extrapolations for excited states</i></p> <p>Invited talk at the Workshop of the SFB 634, December, 2006, Paradeismühle, Germany <i>Modern theory of nuclear forces: Status and perspectives</i></p> <p>Workshop on Three-Nucleon Interactions from Few- to Many-Body Systems, March 2007, TRIUMF, Vancouver, Canada <i>On the low-energy constants of the chiral effective pion-nucleon Lagrangian</i></p> <p>Invited talk at I3HP Collaboration Committee Meeting, May 2007, Frascati, Italy <i>HadronTH: Structure and dynamics of hadrons</i></p> <p>Invited talk at Jefferson Lab User Group Meeting 2007, June 2007, Newport News, USA <i>Nucleon form factors from dispersion theory</i></p> <p>International Conference on Hadron Physics TROIA'07, August 2007, Canakkale, Turkey <i>Hadronic atoms</i></p>
Bastian Kubis	11	<p>Invited talk at I3 HadronPhysics2 Opening Meeting, September 2007, Frascati, Italy <i>QCDnet: Hadron physics with light and heavy quarks</i></p> <p>HadronTH'07 Workshop, September 2007, Barcelona, Spain <i>Quark mass dependence of baryons</i></p> <p>Workshop on Physics and Astrophysics of Hadrons and Hadronic Matter, 6-10 November 2006, Shantiniketan, India <i>An introduction to chiral perturbation theory</i></p> <p>5th Kaon Mini Workshop, 12 December 2006, CERN, Geneva, Switzerland <i>Aspects of radiative $K_{\ell 3}^+$ decays</i></p> <p>Lectures at the Universidad Complutense, 20-21 March 2007, Madrid, Spain <i>An introduction to chiral perturbation theory</i></p> <p>11th International Conference on Meson-Nucleon Physics and the Structure of the Nucleon, 10-14 September 2007, Jülich, Germany <i>Isospin violating nucleon form factors</i></p>

Jochen Heitger	11	Workshop of the European Flavour Physics Network FLAVIANet (EuroFlavour06), 2 - 4 Nov 2006, Barcelona, Spain, <i>Towards a determination of the B_s-meson decay constant in two-flavour QCD</i> XXV International Symposium on Lattice Field Theory (Lattice 2007), 30 Jul - 4 Aug 2007, Regensburg, Germany, <i>A strategy for performing non-perturbative computations in HQET with dynamical light quarks</i>
Patrick Fritzscht	11	XXV International Symposium on Lattice Field Theory (Lattice 2007), 30 Jul - 4 Aug 2007, Regensburg, Germany, <i>Non-perturbative relation between the bare and the RGI heavy quark mass in finite-volume two-flavour QCD</i>
Gernot Münster	11	Workshop “QCD on Teraflops Computers”, 11 Oct - 13 Oct 2006, Bielefeld, Germany, <i>Twisted mass QCD</i>
Federico Farchioni	11	DPG Frühjahrstagung Heidelberg 2007, 5 Mar - 9 Mar 2007, Heidelberg, Germany, <i>Precise results from lattice QCD with light quarks in the twisted-mass formulation</i> XXV International Symposium on Lattice Field Theory (Lattice 2007), 30 Jul - 4 Aug 2007, Regensburg, Germany, <i>QCD with one quark flavor: I. Numerical simulations and hadron spectrum</i> DESY Theory Workshop, 25 Sep - 28 Sep 2007, Hamburg, Germany, <i>Lattice Calculations at small Quark Masses and Overlap Fermions</i>
Filippo Palombi	11	XXV International Symposium on Lattice Field Theory (Lattice 2007), 30 Jul - 4 Aug 2007, Regensburg, Germany, <i>Preliminary non-perturbative results of the B_s mixing parameter in the static limit from quenched $tmQCD$</i>
Stefano Capitani	11	Workshop Domain Wall Fermions at 10 Years, 15-17 March, BNL, USA, <i>Chiral Violations in Perturbative Domain Wall QCD</i>
Hartmut Wittig	11	EuroFlavour06, 2-4 November 2006, Barcelona, Spain, WG2, <i>Corrections to the interquark potential: A lattice perspective</i>
Miho Koma	11	XXV International Symposium on Lattice Field Theory (Lattice 2007), 30 Jul - 4 Aug 2007, Regensburg, Germany, <i>Relativistic correction to the static potential at $O(1/m)$</i>
Akaki Rusetsky	11	Seminar at LNF-INFN, 6 December 2007, Frascati, Italy <i>Theory of $\bar{K}p$ and $\bar{K}d$ atoms</i>

Ulf-G. Meißner	11	<p>Meson 2008: 10th International Workshop on Meson Production, Properties and Interaction, 6-10 June 2008 Krakow, Poland <i>Cusps in the kaon decays</i></p> <p>Seminar at HISKP, University of Bonn, 7 July 2008, Bonn, Germany <i>Isospin breaking effects in K_{e4} decays</i></p> <p>International Conference on Hadron Physics TROIA'07, August 2007, Canakkale, Turkey <i>Hadronic atoms</i></p> <p>I3 HadronPhysics2 Opening Meeting, September 2007, Frascati, Italy <i>QCDnet: Hadron physics with light and heavy quarks</i></p> <p>HadronTH'07 Workshop, September 2007, Barcelona, Spain <i>Quark mass dependence of baryons</i></p> <p>International Symposium on New Facet of Three Nucleon Force – 50 years of Fujita-Miyazawa Three Nucleon Force (FM50), October 2007, Tokyo, Japan <i>Three-nucleon forces from effective field theory: Why Fujita and Miyazawa were not just lucky</i></p> <p>International Symposium on New Facet of Three Nucleon Force – 50 years of Fujita-Miyazawa Three Nucleon Force (FM50), October 2007, Tokyo, Japan <i>Partial wave decomposition of 2π-1π exchange three-nucleon force in chiral effective field theory</i></p> <p>18th Indian Summer School (I3S06): Strangeness And Hypernuclei October 2006, Rez, Czech Republic <i>The hyperon nucleon interaction: Conventional versus effective field theory approach</i></p> <p>CEA-FZJ workshop on High Performance Computing February 2008, Jülich, Germany <i>Nuclear physics from simulations</i></p> <p>Workshop on Hadron Electromagnetic Form Factors, May 2008, ECT*, Trento, Italy <i>Nucleon form factors from dispersion theory</i></p>
Bastian Kubis	11	<p>410. WE-Heraeus Seminar “Ab-initio Nuclear Structure - Where do we stand?” July 2008, Bad Honnef, Germany <i>Nuclear lattice simulations</i></p> <p>HEP theory seminar at RWTH Aachen, 18 October 2007, Aachen, Germany <i>Isospin violation and strangeness in the nucleon</i></p> <p>Lecture at the European Graduate School Basel–Graz–Tübingen, 16 May 2008, Basel, Switzerland <i>Introduction to chiral perturbation theory with baryons</i></p> <p>Talk at the FlaviAnet Kaon Workshop 2008, 12-14 June 2008, Anacapri, Italy, <i>Radiative corrections in $K \rightarrow 3\pi$ decays</i></p>

		<p>Seminar at HISKP, University of Bonn, 16 June 2008, Bonn, Germany <i>Non-relativistic EFT for $K \rightarrow 3 \pi$ decays</i></p> <p>Lectures at the School on Flavour Physics, 13-25 July 2008, Benasque, Spain <i>Baryon chiral perturbation theory</i></p>
Stefano Capitani	11	<p>XXV International Symposium on Lattice Field Theory (Lattice 2007), 30 Jul - 4 Aug 2007, Regensburg, Germany, <i>Chiral violations from one-loop domain wall fermions</i></p>
Andreas Jüttner	11	<p>Workshop: Lattice QCD Meets Experiment, 10 - 11 Dec 2007, Fermilab, USA, <i>Kaon Physics</i></p>
Andreas Jüttner	11	<p>DPG Frühjahrstagung 10 - 14 Mar 2008, Darmstadt, Germany, <i>Status of Kaon Physics</i></p>
Jochen Heitger	11	<p>Annual Meeting of the European Flavour Physics Network FLAVIANet (EuroFlavour07), 14 - 16 Nov 2007, Orsay, France, <i>Quark mass dependence of the heavy-strange meson decay constant in quenched QCD</i></p> <p>XXXIX Arbeitstreffen “Kernphysik” 2008, 21 - 28 Feb 2008, Schleching, Germany, <i>Heavy quark masses from lattice QCD</i></p> <p>International Workshop on e^+e^- collisions from Φ to Ψ (PHIPSI08), 7 - 10 Apr 2008, INFN Frascati, Italy, <i>Heavy quark masses from lattice QCD</i></p> <p>XXVIII General FANTOM Study Week “The Early Universe”, 13 - 16 May 2008, Münster, Germany, <i>Baryogenesis and the electroweak phase transition</i></p>
Patrick Fritsch	11	<p>ECT Workshop “Perspectives and challenges for full QCD lattice calculations”, 5 - 9 May 2008, Trento, Italy, <i>Non-perturbative matching of HQET and QCD with two massless dynamical quarks</i></p> <p>XXVI International Symposium on Lattice Field Theory (Lattice 2008), 14 - 19 Jul 2008, Williamsburg, USA, <i>Non-perturbative quark mass dependence in the heavy-light sector of two-flavour QCD</i></p>
Federico Farchioni	11	<p>XXXIX Arbeitstreffen “Kernphysik” 2008, 21 - 28 Feb 2008, Schleching, Germany, <i>Gittersimulationen der QCD mit Twisted-Mass-Quarks und chirale Störungstheorie</i></p> <p>ECT Workshop “Perspectives and challenges for full QCD lattice calculations”, 5 - 9 May 2008, Trento, Italy</p>
Stefan Schaefer	11	<p>Perspectives and challenges for full QCD lattice calculations, 5 May - 9 May 2008, Trento, Italy, <i>Simulations with dynamical HYP link Wilson fermions</i></p>

Shinji Takeda	11	10 Meeting of SFB/TR9 Computational Particle Physics, 18 Feb - 19 Feb 2008, Karlsruhe, Germany, <i>Perturbative analysis of overlap fermions in the Schrödinger Functional</i>
Oliver Witzel	11	10 Meeting of SFB/TR9 Computational Particle Physics, 18 Feb - 19 Feb 2008, Karlsruhe, Germany, <i>Spectral studies for a non-Hermitian polynomial</i>
Rainer Sommer	11	Perspectives and challenges for full QCD lattice calculations, 5 May - 9 May 2008, Trento, Italy, <i>Towards heavy quark physics with two light dynamical quarks</i> Flavour Physics Theory Institute, 12 May - 30 May 2008, CERN, Geneva, Switzerland <i>Two related methods for dealing with heavy quarks on the lattice</i>
Georg von Hippel	11	Perspectives and challenges for full QCD lattice calculations, 5 May - 9 May 2008, Trento, Italy, <i>Experiences with the DD-HMC algorithm on large lattices</i>

3.5 General Networking

During the reporting period the FLAVIA_{net} nodes have pursued an active scientific exchange. Here we list the visits focusing on research; visits devoted to training are listed in the Training Report.

Name	from Node no.	to Node no.	dates
Catalina Espinoza	1	3	17/7/2007 – 17/11/2007
Christoph Haefeli	1	9	18/12/2006 – 7/1/2007
	1	11	22/1/2007 – 24/1/2007
	1	9	2/4/2007 – 2/5/2007
Pilar Hernández	1	9	1/7/2007 – 15/8/2007
Silvia Necco	1	9	2/7/2007 – 28/07/2007
	1	9	19/11/2007 – 3/12/2006
	1	11	18/6/2007 – 22/06/2007
Antonio Pich	1	9	17/7/2007 – 27/7/2007
David Greynat	1	8 (IPN-Orsay)	24th March - 6th April 2008
David Greynat	1	8 (Marseille)	7-9th April 2008
Silvia Necco	1	9	25-26 March 2008
Silvia Necco	1	5	26th May 2008
Christoph Haefeli	1	9	1st January - 29th February 2008
Vicent Mateu	1	4 (MPI)	Sep 15 – Nov 30, 2008
E. Pallante	1	11	19 May 2008
Antonio Pich	1	5	7-10 April 2008
Antonio Pich	1	9	1st May - 31 July 2008
Matthias Jamin	2	4	13/6
Joaquim Matias	2	12	16/4

Joaquim Prades	2	1	15/1-20/1
	2	12	1/1-31/11
Rafel Escribano	2	5	27/3
	2	5	5/7
Lluís Garrido	2	5	15/3-16/3
	2	5	25/4-25/4
	2	5	5/6-8/6
	2	5	10/7-13/7
	2	5	23/7-27/7
Ricardo Graciani	2	5	27/2
	2	5	10/5 - 18/5
	2	5	25/6-28/6
	2	5	31/7-3/8
	2	5	13/8-16/8
Felix Schwab	2	4	5/4
Patricia Ball	3	4	1 April-30 Sept 2008
Aiofe Bharucha	3	4	8-15 June, 2008
C. Thomas	3	8	9/4/08 - 11/4/08
Roman Zwicky	3	4 (Aachen)	16–20 Jun 2008
Martin Beneke	4	11 (Bonn)	7/5
	4	11 (Mainz)	12/6
Monika Blanke	4	3 (Durham)	21/6 - 22/6
Cailin Farrell	4	3 (Durham)	12/2 - 17/2
Agnieszka Grzelinska	4	5 (Frascati)	23/6 - 7/7
	4	6 (Katowice)	11/4 - 18/4 and 3/9 - 14/9
	4	1 (Valencia)	27/3 - 3/4
Andre Hoang	4	1 (Valencia)	6/11 - 10/11
	4	9 (Zurich)	6/11 - 10/11
Thomas Mannel	4	5 (Frascati)	13/11 - 15/11
Ulrich Nierste	4	11 (Mainz)	15/11
Anton Poschenrieder	4	3 (Durham)	29/11 - 2/12
Christoph Reißer	4	3 (Durham)	10/10 - 14/10
Maximilian Stahlhofen	4	1 (Valencia)	6/11 - 10/11
Stéphanie Trine	4	5 (Frascati)	21/5 - 26/5
Johann Kühn	4	5 (Frascati)	7–10 Apr 2008
Ulrich Nierste	4	5 (Cagliari)	3–4 Apr 2008
André Hoang	4	5 (Florence)	Oct 1-5, 2007
André Hoang	4	10 (Vienna)	Oct 29, 2008
Maximilian Stahlhofen	4	8 (Orsay)	Nov 14-16, 2007
Cailin Farrell	4	8 (Orsay)	Nov 14-16, 2007
Christoph Reisser	4	3 (Durham)	Oct 10, 2007
Christoph Reisser	4	8 (Orsay)	Nov 14-16, 2007
N. Brambilla	5	1	April–August 2007

P. Colangelo	5	9	October 2007 (1 week)
F. De Fazio	5	3	February 2007 (1 week)
R. Frezzotti	5	11	August 2007 (1 week)
G. Isidori	5	12	March 2007 (1 week)
F. Jugeau	5	1	February 2007 (1 week)
G.C. Rossi	5	11	January 2007 (1 week)
G.C. Rossi	5	11	July–August 2007
L. Silvestrini	5	9	May 2007 (1 week)
L. Silvestrini	5	12	March 2007 (1 week)
A. Vairo	5	1	April–August 2007
P. Colangelo	5	8	7/10/07 - 18/10/7
	5	8	29/6/08 - 6/7/08
Fulvia De Fazio	5	4	November 2007 (1 week)
	5	8	February 2008 (1 week)
R. Frezzotti	5	11	12.7.-19.7.07
Marco Ciuchini	5	8	20-23/2/2008
Jernej Kamenik	5	8 (Orsay)	12–21 Dec 2008
	5	8 (Ljubljana)	29/2 –10/3 2008
	5	4 (Karlsruhe)	4–7 Jun 2008
Javier Virto	5	2	10/4–20/4 2008
	5	2	16/6–23/6 2008
Vittorio Lubicz	5	8	31/3-3/4 2008
Gino Isidori	5	3	Jan 2008 (1 week)
	5	9	June 2008 (1 week)
Federico Mescia	5	8	April 2008 (1 week)
Enrico Nardi	5	8	June 2008 (1 week)
Henryk Czyż	6	5	11/10/06 - 26/10/06
	6	5	24/06/07 - 27/06/07
	6	5	15/07/07 - 30/07/07
	6	5	15/09/07 - 30/09/07
	6	4	22/11/06 - 22/12/06
	6	4	07/01/07 - 13/02/07
Janusz Gluza	6	11	05/02/07 - 09/02/07
	6	11	22/07/07 - 27/07/07
	6	5	25/06/07 - 26/06/07
Maria Krawczyk	6	9	08/10/06 - 12/10/06
	6	9	26/03/07 - 31/03/07
	6	4	05/02/07 - 08/02/07
Mikolaj Misiak	6	4	24/09/07 -26/09/07
	6	9	09/09/07 - 23/09/07
Agnieszka Wapienik	6	4	22/11/06 - 22/12/06
	6	4	07/01/07 - 13/02/07
Henryk Czyż	6	4	15/10/07-15/12/07

	6	4	15/01/08-15/02/08
	6	5	01/07/08-15/07/08
Janusz Gluza	6	11	15/06/08 - 21/06/08
Krzysztof Kajda	6	11	15/06/08 - 21/06/08
Konstantin A. Kanishev	6	9	21/01/08 - 02/02/08
Maria Krawczyk	6	9	01/10/07-31/10/07
	6	9	01/01/08-28/02/08
Agnieszka Wapienik	6	4	10/11/07 - 10/12/07
S. Wycech	6	7	24-1/10/2007
Mikko Sainio	7	9	7-8/12/2006
Johan Bijmens	7	11 (Mainz)	16-17/1/2007
Jan Eeg	7	10 (Ljubljana)	8-26/1/2007
Jan Eeg	7	10 (Ljubljana)	26/2-13/3/2008
Mikko Sainio	7	9 (Berne)	27-28/2/2008
Emilie Passemar	8	2	2-7 Nov 2006
Sébastien Descotes-Genon	8	11	5-7 Mar 2007
Marc Knecht	8	11	5-7 Mar 2007
Jan Stern	8	11	5-7 Mar 2007
Damir Becirevic	8	9	Sep 2007
Roland Kaiser	8	11	20 Nov - 1 Dec 2006
Hagop Sazdjian	8	1	April 2007
D. Bećirević	8	10	6/4/08 - 19/4/08
M. Brinet	8	11	5.12.-19.12.05
S. Descotes-Genon	8	5	11/6/08 - 15/6/08
B. Haas	8	5	1/6/08-28/6/08
B. Moussallam	8	5	11/6/08 - 14/6/08
N. Offen	8	4	14/9/07 - 23/9/07
	8	4	24/1/08 - 26/1/08
	8	4	18/2/08 - 22/2/08
	8	5	8/9/08 - 13/9/08
L. Oliver	8	2	16/4/08 - 19/4/08
O. Pene	8	11	11.10.-17.10.07
H. Sazdjian	8	5	February 08 (1 week)
Stefan Dürr	9	3	24.1.07 – 26.1.07
Christoph Greub	9	11	1.3.07 – 31.7.07
Christopher Smith	9	3	2.5.07 – 4.5.07
Gilberto Colangelo	9	11 (Mainz)	25-26 June 2008
Jürg Gasser	9	11 (Bonn)	28.1.-11.2. 2008
			16.6. - 28. 6. 2008
			28.7.-1.8. 2008
Christoph Greub	9	11 (DESY-H)	16.-27.1.08
Helmut Neufeld	10	5	17-23 May 2007
Andreas Kastner	10	5	12-16 May 2008

Paul Posch	10	5	12-16 May 2008
Martin Zdráhal	10	5	12-16 May 2008
Martin Zdráhal	10	8	6-9 July 2008
Gerhard Ecker	10	4	8-9 July 2008
Nejc Košnik	10	8	3-10 June 2008
Björn Leder	11	9	17/9/07 – 20/9/07
Rainer Sommer	11	5	29/5/07 – 31/5/07
B. Blossier	11	8	13.11.-16.11.07
B. Blossier	11	8	10.03.08
B. Blossier	11	8	01.04.-04.04.08
G. Herdoiza	11	5	12.12-14.12.07
G. Herdoiza	11	8	04.03-07.03.08
G. Herdoiza	11	5	18.06-23.06.08

Collaborations among the different nodes have resulted in several joint publications. We present the list of our common publications in the form of a matrix in Tabs. 9 and 10 in order to display the networking aspect.

3.6 Changes to the schedule

We have moved the second general meeting, *Euro-Flavour 07* from month 12 to month 14, because several other conferences in spring and summer have been used for networking, as mentioned in Sects. 3.3. Another reason was a scheduling conflict with the *4th International Conference On Flavor Physics* in Beijing. The duration of the 2008 European Flavour Physics School (July 13 – July 25 in Benasque, Spain) has been extended to 12 days; this has allowed to schedule a broader set of lectures covering all aspects of flavour physics and effective field theories. We have further hired several ER and ESR later than originally envisaged. The reason for this delay was an unfortunate timing of the start of the contract. In theoretical particle physics it is customary to hire staff at the beginning of the academic fall/winter term, and the hiring decisions are usually made more than six months in advance in December or January. Our search for ERs and ESRs started in late January 2007 at a time when most qualified young researchers had already decided on their job offers.

4 Conclusions

FLAVIANet members have written roughly 600 papers for refereed journals during the reporting period. We estimate that the FLAVIANet activity corresponds to at least 2/3 of the scientific output in theoretical flavour physics in Europe. Experimentalists in FLAVIANet were involved in numerous analyses of data from BaBar, KLOE and the CERN experiments. The visibility of FLAVIANet research at international conferences is evident from the talks listed in Sect. 3.4. Our annual network meetings, *Euro-Flavour 06* and *Euro-Flavour 07* were central events of our field

of research in Europe. These meetings were complemented by other workshops and conferences organised by *FLAVIA_{net}* members at their home institutions as described in Sect. 3.4.

FLAVIA_{net} has fostered existing and stimulated new transnational scientific cooperations, which resulted in common publications of different nodes (see Tabs. 9 and 10). The mutual visits listed in Sect. 3.5 have strengthened transnational ties. *FLAVIA_{net}* brings people and their expertises together and actively contributes to a structured European science landscape.

	1	2	3	4	5	6	7	8	9	10	11
1		[4,6,16, 23–25, 29,101]	[29]	[10, 29, 37, 101, 208]	[14, 15, 29, 30, 34–36, 101, 208, 275, 289, 561]			[14, 15, 29, 101, 408,562]	[7, 8, 13, 19,29]	[7,29]	[14, 15, 19,29]
2	[4, 6, 16, 23–25,29, 101]		[29, 82, 83, 102, 103, 165]	[29, 101, 202]	[29, 89, 101, 104, 278]		[105, 106]	[29, 88, 101, 403, 563]	[29]		[29]
3	[29]	[29, 82, 83, 102, 103, 165]		[29]	[29]			[29]	[29]		[29]
4	[10, 29, 37, 101, 208]	[29,101, 202]	[29]		[29, 101, 208, 214, 215, 215, 276, 277, 564–576]	[192, 338, 339, 342]		[29,101]	[29,338]		[29, 233, 338]
5	[14, 15, 29, 30, 34–36, 101, 208, 275, 289, 561]	[29, 89, 101, 104, 278]	[29]	[29, 101, 208, 214, 215, 215, 276, 277, 564–576]				[14, 15, 29, 101, 271–274, 406, 414, 577–580]	[29,456, 457, 463, 502,503]	[485]	[14, 15, 29, 271, 502, 503, 581–586]
6				[192, 338, 339,342]			[387]		[338,340]		[335–338]
7		[105, 106]				[387]			[382]	[366, 367]	
8	[14, 15, 29, 101, 408,562]	[29, 88, 101, 403, 563]	[29]	[29,101]	[14, 15, 29, 101, 271–274, 406, 414, 577–580]				[29,411]		[14, 15, 29, 400, 409]
9	[7, 8, 13, 19, 29]	[29]	[29]	[29,338]	[29, 456, 457, 463, 502,503]	[338, 340]	[382]	[29,411]		[485]	[19, 459, 491, 495, 502–504, 511, 581–586]
10	[7, 29]				[485]		[366, 367]		[485]		
11	[14, 15, 19, 29]	[29]	[29]	[29, 233, 338]	[14, 15, 29, 271, 502, 503, 581–586]	[335–338]		[14, 15, 29, 400, 409]	[19, 459, 491, 495, 502–504, 511, 581–586]		

Table 9: Joint publications of several nodes during the first year of the reporting period. Rows and columns correspond to the 11 nodes, the bibliographical items refer to the list of publications in Sect. 2.

	1	2	3	4	5	6	7	8	9	10	11
1		[56, 60, 73, 107]	[174]	[37, 45, 53, 252–256]	[14, 49, 52, 167, 290–292]	[357]		[14, 15, 52]	[14, 52, 59, 61]		[14, 50, 52, 57, 59]
2	[56, 60, 73, 107]			[29, 56, 116, 167, 252–256, 260]	[167]	[357]		[70]			
3	[174]			[45, 167]	[167, 330–334]	[357]		[442, 443]			[169, 172, 186–188]
4	[37, 45, 53, 252–256]	[29, 56, 116, 167, 252–256, 260]	[45, 167]		[29, 45, 167, 252–259, 263, 300, 327–329]	[45, 167, 359, 360]		[29, 45, 167, 239, 252–256]	[29, 45, 167]		[29, 45, 233, 255, 256]
5	[14, 49, 52, 167, 290–292]	[167]	[167, 330–334]	[29, 45, 167, 252–259, 263, 300, 327–329]		[356, 357, 361]	[301]	[14, 15, 52, 167, 296, 299, 301, 330–334, 434, 439, 449]	[167, 299, 324]	[318–321]	[14, 52, 290–292, 434, 522, 525]
6	[357]	[357]	[357]	[45, 167, 359, 360]	[356, 357, 361]			[357]	[357, 363]		[344–349, 363]
7					[301]			[301]	[301]	[318]	
8	[14, 15, 52]	[70]	[442, 443]	[29, 45, 167, 239, 252–256]	[14, 15, 52, 167, 296, 299, 301, 330–334, 434, 439, 449]	[357]	[301]		[14, 15, 52, 296, 301, 424, 426, 434, 450–452]	[321, 427, 438]	[14, 15, 52, 301, 430, 431, 431, 444, 539]
9	[14, 52, 59, 61]			[29, 45, 167]	[167, 299, 324]	[357, 363]	[301]	[14, 15, 52, 296, 301, 424, 426, 434, 450–452]			[50, 59, 162, 475, 503, 519, 526–530, 554]
10					[318–321]		[318]	[321, 427, 438]			
11	[14, 50, 52, 57, 59]		[169, 172, 186–188]	[29, 45, 233, 255, 256]	[14, 52, 290–292, 434, 522, 525]	[344–349, 363]		[14, 15, 52, 301, 430, 431, 431, 444, 539]	[50, 59, 162, 475, 503, 519, 526–530, 554]		

Table 10: Joint publications of several nodes during the second year of the reporting period. See Tab. 9 for explanation.