

ÅRSRAPPORT 2010

KLINISK MIKROBIOLOGISK AFDELING

AFSNIT 7602 + 9301

RIGSHOSPITALET
INDHOLDSFORTEGNELSE

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Prøver til bakteriologisk og parasitologisk undersøgelse (9301 og 7602), 2010					
Prøvemateriale gruppe	Prøver	Vægtning	Analyser	Prøver	2009
Blod	1.183	1	1.183		1.096
Ekssudater	9.481	1	9.481	¹⁾	7.733
Fæces	10.962	5	54.810		50.460
Luftvejssekreter	9.794	1	9.794		9.199
Podninger	14.053	1	14.053		15.398
Spinalvæsker	1.429	1	1.429		1.746
Uriner	23.316	1	23.316		22.206
Væv	3.258	1	3.258		2.834
Fremmedlegmer	2.710	1	2.710		2.771
Bloddyrkningskolber	25.750	2	51.500		51.682
CF Luftvejssekreter	4.587	3	13.761		14.472
Andet	248	1	248		315
I alt	106.771		185.543	106.771	179.912
Heraf prøver til parasitologisk undersøgelse			3.673		3.241
Udvidet identifikation	0	0	0		
I alt			0	0	1.340
Prøver til andre analyser (9301 og 7602)					
Serum antibiotika konc.			7.783		8.400
Øvrige (endotoxin, granulocyt test)			92		116
I alt			7.875	7.875	8.516
Hygiejneprøver			6.926		4.029
Prøver til virologisk undersøgelse (inkl. bl.a. Toxoplasmose, Legionella, TB)					
Prøvemateriale gruppe					
Blod			14.944		14.429
Ekssudater			343		375
Fæces			1.014		1.186
Luftvejssekreter			2.027		2.175
Podninger			1.136		1.998
Spinalvæsker			461		418
Uriner			433		430
Væv			12		18
Andet			805		906
I alt			21.175	21.175	21.935
Analyser udført på prøver til virologisk undersøgelse					
Serologiske analyser			30.933		31.890
RNA/DNA påvisning ved PCR			25.032		24.967
I alt antal udførte virologiske analyser			55.965		56.857
Prøver i Elektroforeselab. (inkl. speciel identifikation)			3.253	3.253	2.784
Analyser udført på prøver i Elektroforeselab.					
	Prøver	Vægtning	Analyser		
Præcipitiner (antal plader)	8.152	1	8.152		9.162
Pseudomonas ELISA	834	5	4.170		2.115
Aspergillus ELISA	1.034	4	4.136		1.784
Saliva ELISA	22	8	176		464
PFGE	411	1	411		156
I alt antal udførte analyser i elektroforese lab.			17.045		13.681
Antal prøver i alt				146.000	
Antal analyser i alt (sum af tal i kursiv)			273.354		264.335

1) I 2010 analyseredes 431 vævsprøver fra sinus i cystisk fibrosepatienter. Disse prøver er inkluderet i prøvematerialegruppen 'ekssudater' og vægtes med en faktor 5.

2) Tallene fra Hygiejne i 2010 og 2009 er antal prøver (ikke antal analyser).

RÅDGIVNING OG INFORMATION:

Deltagelse i 3-4 daglige konferencer på kliniske afdelinger (22/uge) samt tilsyn af patienter og telefonkontakt til klinikkerne.

Rådgivning i klinisk mikrobiologiske spørgsmål til Grønlands Sundhedsvæsen.

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E: DIVERSE:

Bjarnsholt T: Sessionsleder ved Danmarks Mikrobiologiske Selskabs årlige symposium, den 9 november 2010.
Sessionsleder ved Biofilm4, Winchester UK, 1-4 september, 2010.
Vejleder for Bachelor stud. Pratheepan Rajendram "Initial biofilm formation", SUND, KU og DTU.
Vejleder for Master stud. Marlene Hansen "Full genome sequencing of *Achromobacter xylosoxidans*", SUND KU og KMA RH.
Vejleder for Master stud. Kasper Thomsen "Physiology of bacterial biofilms", SUND KU og KMA RH.
Vejleder for Master stud. Özge Eer "Bacterial infections of soft tissue fillers injections", SUND KU og KMA RH.
Medvejleder for Ph.D. stud. Tim Holm Jakobsen "Udvikling af quorum sensing inhibitorer", SUND, KU.
Medvejleder for Ph.d. stud. Louise Dahl Christensen "Kostkomponenter og deres indvirkning på kroniske *Pseudomonas aeruginosa* infektioner", SUND, KU.
Medvejleder for Ph.D. stud. Maria van Gennip "Fremtidige behandlingsstrategier af bakterielle infektioner med multi-funktionel antimikrobiel medicin", SUND, KU.
Medvejleder for Ph.D. stud. Morten Alhede "*Pseudomonas aeruginosa* host interactions: common traits in chronic infections" SUND KU og DTU.
Medvejleder for Ph.D. stud. Helle Johansen "Identifikation af anti-mikrobielle stoffer i 2. generations plante-biomasse", SUND KU.
Sekretær og stifter af biofilm arbejdsgruppen under DSKM.
Sekretær for 2nd Eurobiofilms Conference 2011, 6-8 København 2011.
Medlem af Dansk Mikrobiologisk Selskab.
Referee for Microbiology.
Referee for Wound Repair and Regeneration.
Referee for Biofouling.
Referee for Journal of Antimicrobial Chemotherapy.
Referee for Biofilms.
Referee for Journal of Cystic Fibrosis.
Referee for Journal of Medical Microbiology.
Referee for Wound Healing Society Year Book 2010, PlosOne.

Ciofu O:

Vejleder for Bachelor stud.med. Per Svanholm "Resistensmekanismer i *Klebsiella pneumoniae*".

Vejleder for Bachelor stud.med. Milena Svranka " Vacciner mod pneumokoksygdom med fokus på PCV7"

Vejleder for Bachelor stud.med. Ida Jørgensen "Endocarditis: risiko, bakteriologi og profylakse"

Vejleder for Kandidat stud.med. Nicolai Aarup Obling "*Listeria monocytogenes*".

Vejleder for ph.d. stud. Hengzhuang Wang "Pharmacokinetics and pharmacodynamics of antimicrobial agents to planktonic and biofilm-growing *Pseudomonas aeruginosa* and *Staphylococcus aureus* in vitro and in vivo". KMA, RH 2008-2011.

Vejleder for ph.d. stud. Karin M. Jørgensen "Adaptive mechanisms of *P. aeruginosa* during the chronic airways infection in patients with cystic fibrosis". Division of Bacteriology, IHIM 2010-2013.

Formand for bedømmelsesudvalget for Ph.d. stud . Mustafa Fazli "Investigation of microbial biofilms in chronic wounds and in vitro systems".

Censor for speciale stud. Søren Damkjær Pedersen "Genetic adaptation by *Pseudomonas aeruginosa* to the airways of cystic fibrosis patients".

Censor for bachelor stud. Hedi Sanda Reka Johansen "The effect of alginate overproduction in *Pseudomonas aeruginosa* on the susceptibility to antibiotics".

Censor for speciale stud. Trine Markussen "Population diversity of *Pseudomonas aeruginosa* in chronically infected patients with cystic fibrosis".

Censor for speciale stud. Alexandra Burleigh "Population diversity of *Pseudomonas aeruginosa* in chronically infected cystic fibrosis patients".

Censor for speciale stud. Maria Gomez Lozano "Different evolutionary pathways during *Pseudomonas aeruginosa* long-term infection".

Censor for speciale stud. Rasmus Bojsen "Comparative investigations of cephalosporins: In vivo and in vitro study of cefuroxime and cefotaxime: bactericidal activity, ESBL selection ability and frequency of resistance".

Censor for bachelor stud. Morten A. Schultz og Frederik Ægidius "Screening of genes responsible for antibiotic resistance development in *Pseudomonas aeruginosa*".

Høiby, N:

Chairman and founder of: The ESCMID Study Group for Biofilms (ESGB).

Founder and chairman for: Biofilm arbejdsgruppen under Dansk Selskab for Klinisk Mikrobiologi.

Member of: Antimicrobial Task Force (AMTF), Cystic Fibrosis Foundation, USA.

President for: Eurobiofilms 2011, Copenhagen, Denmark, July 6-8, 2011, chair of organizing committee 2010.

Chairman & organizer: Educational workshop 'Diagnosis of bacterial biofilm infections', 20th ECCMID, Vienna, Austria, April 10-13, 2010.

Chairman for: Preventing catheter-related infections: light and shadow. 20th ECCMID, Vienna, Austria, April 10-13, 2010.

Chairman for: Nosocomial pneumonia. 20th ECCMID, Vienna, Austria, April 10-13, 2010.

Chairman for: Videnskabeligt møde 'Antibiotikaforbrug i landbruget og bakteriel resistensmønster i Danmark'. Det Medicinske Selskab i København og Jydsk Medicinsk Selskab, fællesmøde, Rigshospitalet, 8-6-2010.

Moderator of: Grand Rounds in Pulmonary Disease. 33rd European Cystic Fibrosis Conference. Valencia, Spain, 16/6-19/6-2010.

Chairman of: Workshop 19: 'Typing and virulence.' 33rd European Cystic Fibrosis Conference. Valencia, Spain, 16/6-19/6-2010.

Editorial Board, International Journal of Antimicrobial Agents. 2010-Editorial Board, Journal of Cystic Fibrosis. 2002-

Editorial Board, Future Microbiology, 2006-

Formand for: Det Danske Pasteur Selskab

Medlem af Lægerådet og Bestyrelsen af Landsforeningen til bekæmpelse af Cystisk Fibrose.

Bedømmer af disputatser og PhD afhandlinger:

31) Dieter Worlitzsch's thesis (Habilitationsschrift) 'Einfluss von Sauerstoffmangel auf die chronische bakterielle Lungenentzündung von Patienten mit cystischer Fibrose', Martin-Luther-Universität Halle-Wittenberg, 2010.

External reviewer of James John Lazenby's PhD thesis: 'The role of N-(3-oxododecaoyl-L-homoserine lactone in the pathogenesis of Pseudomonas aeruginosa.' University of New South Wales, Australia.

Evaluation committee, Associate professor and molecular microbiologist, Department of Clinical Microbiology at Rigshospitalet and Institute of International Health, Immunology and Microbiology, University of Copenhagen, Denmark 2010.

Evaluation committee, Position as chairman (ledende overlæge), Department of Clinical Microbiology at Hvidovre Hospital, Copenhagen, Denmark, 2010.

Member of: Forum for Retssikkerhed 2005-
Chairman for: 6.-8. Semester undervisningsudvalget, Sundhedsvidenskabelige Fakultet, Københavns Universitet, 2008-
Chairman for: 6. Sem. Bachelor exam, Sundhedsvidenskabelige Fakultet, Københavns Universitet, 2003-
Member of: Bachelorudvalget, Sundhedsvidenskabelige Fakultet, Københavns Universitet, 2009-
Chairman for: International Reference Centre for Continuing Education (IRCCE) 1996-
Expert adviser (Microbiology): Medical-Legal-Council of Denmark.
Expert adviser (Microbiology): Patientklagenævnet of Denmark.
Formand for DSLY.

Jensen PØ:

Vejleder for stud. scient. Saskia Dillmann i bachelorprojektet: "Denitrification by *Pseudomonas aeruginosa* during the interaction with polymorphonuclear leukocytes in cystic fibrosis patients with chronic lung infection" ved Klin. Mikrobiol. Afd., RH, november 2009- marts 2010.
Vejleder for Cand. scient. Mette Kolpen i Ph.D. projektet: "Significance of the polymorphonuclear leukocytes in CF patients with chronic *Pseudomonas aeruginosa* lung infection" ved Klin. Mikrobiol. Afd., RH, januar 2010- december 2012.
Censor ved Marlene Hansens Kandidat eksamen på Danmarks Tekniske Universitet 10/12-2010.
Reviewer for The Scandinavian Journal of Clinical & Laboratory Investigation African Journal of Biotechnology.

Johansen HK:

Vejleder for OSVAL-2 stud. med. Christina Schjellerup Dalbøge "*Stenotrophomonas maltophilia*".
Vejleder for scholar-stipendiat (FSS-stipendium) Christina Schjellerup Dalbøge i projektet "Farmakokinetik og -genetik hos patienter med CF".
Medvejleder for ph.d.-stud. Klaus Leth-Mortensen.
Medvejleder for ph.d.-stud. Kasper Aanaes.
Vejleder for overlæge Niels Søre Nielsen. "A knee prosthesis model of implant-related osteomyelitis in rats".
Formand for DSKM.
Repræsentant for DSKM i DANres-gruppen.
Arrangør af DSKMs årsmøde 12.-13. marts 2010, Nyborg Strand.
Repræsentant for DSKM i Dansk Medicinsk Selskab.
Medlem i det landsdækkende uddannelsesråd i klinisk mikrobiologi.
Medlem af det landsdækkende ansættelsesudvalg i klinisk

Medlem af lægerådet i Landsforeningen til Bekæmpelse af Cystisk Fibrose.

Medlem af the Scientific Committee for the European Cystic Fibrosis Conferences (ECFS).

Faculty member i ESCMID Postgraduate Technical Workshop Medical Biofilm Techniques 2010. Copenhagen, Denmark 17-20 August 2009.

Reviewer for Journal of Cystic Fibrosis.

Reviewer for Clinical Microbiology and Infection.

Reviewer for Scandinavian Journal of Infectious Diseases.

Ekstern lektor ved ISIM, Københavns Universitet.

Medlem af Censor-korpset ved Danmarks Tekniske Universitet (beskikket som censor ved ingeniøruddannelserne - korpset for kemi).

Bestået Rigshospitalets lederuddannelse 01.09.08-27.04.10 (RL10).

Kurtzhals JAL:

Formand for Dansk Selskab for Parasitologi.

Vice president World Federation of Parasitologists.

Bestyrelsesmedlem, The Danish Research Network for International Health (enrecahealth.ku.dk).

Medlem af task force til etablering af universitetssamarbejde mellem University of Ghana og Københavns Universitet under Danske Universitets Building Stronger Universities initiativ.

Formand for bedømmelsesudvalget vedr. Lektoransættelse ved Center for Medicinsk Parasitologi, Det Sundhedsvidenskabelige Fakultet, KU.

Medlem af arbejdsgruppe vedr. Øvelsesundervisning på medicinstudiet.

Medlem af arbejdsgruppe vedr. ombygning og renovering af Panum Institutet.

Medlem af Center for Medicinsk Parasitologi scientific board og leder af CMP's forskningsgruppe på Rigshospitalet. (www.cmp.dk - PATHOGENESIS).

Medlem af Scientific Review Board European Development Clinical Trial Platform (EDCTP).

DSKM udpeget medlem af arbejdsgruppen til udarbejdelse af rejsemedicinske retningslinier i Danmark.

Fagredaktør (parasitologi), EQA News.

DSKM udpeget referent for parasitologiske afsnit, Medicin.dk.

Forfatter af tropemedicinske afsnit i Medicinhåndbogen.

Hovedvejleder for PhD studerende, cand. scient. Casper Hempel, Københavns Universitet.

Vejleder for PhD studerende, cand. scient. Mathias Jul

Jørgensen, Statens Serum Institut og Københavns Universitet.
Hovedvejleder for PhD studerende, cand. scient. Brian Della Valle, Københavns Universitet.

Vejleder for stud. scient. Lasse Maretty Sørensen, Rebecca Emilie Sharp, Charlotte Jendresen, Abdu Mohamed og stud. med. Vanja Cejvanovic, Vigids Linnea Osmundsen, Joachim Enemark Mygh, Malene Stokholm, og Marie Toft Hagstrøm, Københavns Universitet samt stud. med. Michael Karlsson Lunds Universitet.
Formand for bedømmelsesudvalget vedr. PhD afhandling af Michala Victor.

Formand for bedømmelsesudvalget vedr. PhD afhandling af Nguyen Thi Thu Nam. Det sundhedsvidenskabelige fakultet, Københavns Universitet.

Referee for Antimicrobial Agents and Chemotherapy.

Referee for APMIS.

Referee for BMC Medicine.

Referee for Clinical Microbiology and Infection.

Referee for Experimental Parasitology.

Referee for Malaria Journal.

Referee for Parasite Immunology.

Referee for PLoS one.

Referee for Transactions of the Royal Society of Tropical Medicine and Hygiene.

Referee for Ugeskrift for Læger.

Medlem af GSK advisory board, rejsemedicin.

Medlem steering committee medlem forskningskonsortium til udvikling af sensor til påvisning af parasitter i drikkevand (Samarbejde mellem Grundfos, Unisensor, DTU-vet og CMP).

Moser C:

Vejleder for Ph.d projekt vejleder for læge, Ph.d Christine Rønne Hansen "Clinical relevance of Achromobacter xylosoxidans – a new pathogen in cystic fibrosis. Forsvaret 16. april 2010.

Speciale vejleder for cand scient Dina Silke Malling Damlund "Involvement of dendritic cells during chronic *Pseudomonas aeruginosa* lung infection – possible treatment target. A mouse study". Eksamen 17. december 2010.

Arrangør og kursusleder sammen med Cathrine Bundgaard og Niels Høiby af Ph.d kursus: "Practical course in experimental infectious disease animal models". Februar 2010, Panum Institutet, Københavns Universitet.

Chairman in symposium "Lessons learned from models of infection – overview". ECFS Valencia, Spain, June 16-19, 2010.

Medlem af Scientific Board i European Cystic Fibrosis Society.

Medlem af Scientific advisory board til Eurobiofilms 2011 i København.

Ekstern lektor på ISIM, Københavns Universitet.

Tvede M: Mødearrangør af workshop "Svampeinfektioner hos

transplanterede patienter på RH". KMA 7602, Rigshospitalet 13/12-2010.

Reviewer for Dermatology

Reviewer for Emerging Infectious Diseases.

F: UNDERVISNING:

Bjarnsholt T:

Forelæsning: "Advanced microbiology", KU-NAT, master Course, 24/2-2010.

Forelæsning: "Biomedicine", KU-LIFE, bachelor course, 12/1-2010.

Forelæsning: "Bakteriologi" KU-SUND, 29/11-3/12-2010.

Forelæsning: "Signalbehandling, DTU, 22/2-2010.

Underviser på "Practical ph.d. course in experimental infectious disease animal models" Ph.d. kursus, Panum Inst., Københavns Universitet 1-5 marts 2010.

Underviser på "Medical Biofilm Techniques", ESCMID Postgraduate Technical Workshop, DTU, Lyngby, 16-19 august 2010.

Undervist i Maldi-Tof på KMA, RH, 6-7 juni 2010.

Ciofu O:

Øvelseskursus og forelæsninger i bakteriologi forår og efterår 2010, og formulering og rettelser af eksamensopgaver til sommer- og vintereksamen for medicinstuderende.

Undervisning i mikrobiologi af civilingeniørstuderende og FSV studerende og humanbiologistuderende..

Undervisning i "Lung function testing" på Ph.d. kurset "Experimental infectious disease animal models", Panum Inst., Københavns Universitet 1-5 marts 2010.

Højby N:

Forelæsninger og mikrobiologiske øvelser for stud. Med. på 6. semester Bachelor og 2. semester kandidat.

Vejledning af div. OSVAL 2 studenter

Vejledning af div. PhD studerende

Kursus i antibiotikaterapi: N. Højby: Ledet, organiseret og undervist ved 2-dages kursus for læger, 15-16 april 2010, 22-23 november 2010.

Organiseret og ledet og undervist ved ESCMID-ESGB's Postgraduate Technical Workshop "Medical Biofilm Techniques 2010", 16-19. August 2010, DTU, Lyngby, Denmark. 3 lectures: 1) Højby: Introduction to medical biofilms: antibiotic resistance and medical importance, 2) Højby: Cystic fibrosis and biofilms:

clinical and experimental scenarios, 3) Medical biofilms and antibiotic resistance mechanisms.

Medical Biofilm Techniques PhD Course: *P. aeruginosa* a biofilm in cystic fibrosis patients. Biocentrum, DTU, 25-8-2009. & 24-8-2010.

PhD kursus i Infektionsdyremodeller, undervist i 'Biosafety' og i 'Introduction to Medical Biofilms', KU, Panuminstituttet, 1-3-2010.
Høiby, N.: Rationel antibiotikabehandling – kan det lade sig gøre!
Thisted lægekredsforening, 3-3-2010.

Jensen PØ:

Underviser på Practical ph.d-course in experimental infectious disease animal models. ph.d. kursus, Panum Institutttet, Københavns Universitet, 1-5 marts 2010.

Underviser på Medical Biofilm Techniques. ESCMID Postgraduate Technical Workshop, København, DK, 16-19 august, 2010

Kurtzhals JAL:

Forelæsninger og øvelseskurser i bakteriologi og parasitologi på medicinstudiets 6., 8. og 12. semester.

Kursusleder og underviser, 2-dages kursus i avanceret diagnostisk parasitologi, DBio, Odense, Oktober 2010.

Undervisning i personlig sundhed ved tropeudstationering på Pre-departure course for Danida rådgivere, Udenrigsministeriet, november 2010.

Moser C:

Praktisk antibiotika terapi ud fra foreløbige dyrkningssvar – tolkning af dyrkningssvar. Hæmatologisk afdeling, RH. 2010.

Rationale for antibiotika politik på Hæmatologisk afdeling med særligt fokus på PK/PD og kombinationsbehandling.

Hæmatologisk afdeling, RH 2010.

Diagnostik og behandling af endokardit – set med en mikrobiologs øjne. Kardiologisk afdeling, RH 2010.

Cystic fibrosis and biofilms: clinical and experimental scenarios: Immunology. Ph.d course. ESCMID. DTU. August 2010.

Animal models of Biofilm infections. Ph.d course. ESCMID. DTU. August 2010.

Animal models of Biofilm infections. Ph.d course. Technical Biofilm Course. DTU. August 2010.

Urinvejsinfektioner. Immunologi og transplantation. A-kursus for nefrologer, 2010.

Endokarditis. Specialespecifikt kursus i Klapsygdomme (avanceret ekkokardiografi). Kardiologer 2010.

Antimykotika. Svampeforum 2010. Arrangeret af MSD. København, 2010.

Lungeinfektioner hos børn. Videnskab i Pædiatri 2010. Arrangeret af MSD. København, 2010.

Bakteriediagnostik med DNA teknik. Julesymposium 2010

Ort-kir afd BBH.

Forelæsninger og SAU i Immunologi, Odontologisk Institut,
Københavns Universitet.

- Tvede M: Traume kursus for ortopædkirurgiske kursister: Profylakse og antibiotisk behandling af traumatiserede patienter. Rigshospitalet aud 1, januar 2010.
Traume kursus for ortopædkirurgiske kursister: Profylakse og antibiotisk behandling af traumatiserede patienter. Rigshospitalet aud 1, 8 oktober 2010.
Kursus i antibiotikabehandling og infektionsdiagnostik
Arrangeret af Dagens Medicin 22-23 november, 2010.
Anaerobt kursus for kursister i klinisk mikrobiologi:
KMA 7602, Rigshospitalet, 26 november 2010.

G: VIDEREUDDANNELSE & REJSER

- Christiansen CB: Deltaget i 12th ISW-TBE 2010 Wien 28-29/1-2010.
Deltaget i 14th Nordic-Baltic Conference on TBZ Riga, Letland 23-24/4-2010.
Deltaget i 3rd NECTM Northern European Conference Travel Medicine i Hamburg Rejsemedicinsk kongres. 26-29/5-2010.
- Johansen HK: Deltaget i: 20th ECCMID, Vienna, Austria, April 10-13, 2010.
Deltaget i: 33rd European Cystic Fibrosis Conference, Valencia, Spain, June 16-19, 2010.
Deltaget i: 24th Annual North American CF Conference, Baltimore, Maryland, USA, Oktober 20-23, 2010,
- Kurtzhals JAL: Deltaget i: DSKM's årsmøde, Nyborg Strand, marts 2010.
Deltaget i: ICOPA, Melbourne Australien, august 2010.
Studieophold hos Department of Pathology, University of Sydney, august 2010.
Deltaget i: SSAC, Stockholm, september-oktober 2010.
- Moser C: Deltaget i: Advances Against Aspergillus. Rom, Italien, februar 2010.
Deltaget i: World Immune Regulation Meeting. Davos, Schweiz, marts 2010.
Deltaget i: European Congress of Clinical Microbiology and Infectious Diseases. Wien, Østrig, april 2010.
Deltaget i: Interscience Conference on Antimicrobial Agents and Chemotherapy. Boston, USA, september 2010.

