# Book of abstracts and one page summaries

PHD COURSE IN MUSIC THERAPY RESEARCH

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Doctoral Programme in Music Therapy

Department of Communication and Psychology

Aalborg University, Denmark

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AALBORG UNIVERSITY
DENMARK

# PhD defence

## Julie Kolbe Krøier: Exploring person-attuned musical interactions in dementia care. A flexible research design

Supervisors: Professor Hanne Mette Ridder and Professor Brynjulf Stige

Assessment committee:

- Associate Professor emerita Inge Nygaard Pedersen, Aalborg University (Chair)
- Associate professor Lisbeth Frølunde, Roskilde University, Denmark
- Associate professor Ming Hsu, Cambridge Institute for Music Therapy Research, UK

The thesis aims to generate knowledge concerning interdisciplinary use of PAMI in dementia care. Research has shown that music therapy and music- based activities can have a positive effect on well-being and decrease neuropsychiatric symptoms for persons with dementia. The positive effects of music therapy and music-based activities may be transferred to caregiving contexts, with music therapists to supervise the application of musical interactions. From this indirect practice, in which music therapists support and supervise caregivers in how to apply musical interactions, it is still not clear which nonverbal elements caregivers can apply in their practice, and how caregivers experience the application of musical interactions in their practice.

The concept of PAMI served as a reflexive starting point for exploring nonverbal and musical interaction between the person with dementia and caregivers. The concept is grounded in the person-centered approach to care formulated by the psychologist Tom Kitwood and the theory of communicative musicality by Colwyn Trevarthen and Stephen Malloch.

In article 1, I examine the research literature concerning attunement between caregivers and persons with dementia, with the aim of exploring how attunement is used and understood. Six studies were included in a scoping review, and a meta-ethnographic analysis revealed three interwoven themes describing attunement in dementia care. The three themes were: (1) taking the perspective of the person with dementia and the importance of a person- centered approach, (2) developing understanding through an empathic approach, and (3) using musical parameters in the interaction; tempo adjustments, timing, and the use of music. The findings in the review indicate that person-centered care and musical parameters are embedded in the application of attunement in dementia care.

In the study presented in article 2, I explore how six expert music therapists experience nonverbal interactions between themselves and persons with dementia. Explorative focus group interviews were conducted with two groups of three music therapists in each. In the focus groups, the music therapists wrote lived-experience descriptions about their nonverbal interactions with persons with dementia. The transcripts from the focus group interviews were analyzed using a phenomenological approach, and the revealed findings were elaborated and validated by two of the participating music therapists using musical improvisation as an arts-based approach. The findings describe the music therapists' experience of nonverbal interactions with persons with dementia with five interrelated themes: (1) vitality, (2) disciplined subjectivity, (3) attunement, (4) therapeutic presence, and (5) validation.

In article 3 I describe how six professional caregivers apply and understand musical interactions in their practice. Through a collaborative learning process, the caregivers and I, in the role of music therapist, explored how musical interactions can be used and understood in daily interactions between the caregiver and the person with dementia. The caregivers contributed to the data generation by validating and elaborating narratives describing their application of musical interactions in their work. The workshops from the collaborative learning process were transcribed and included as data in the study. The data was analyzed by applying a hermeneutic ethnographic approach and revealed the following four themes that illuminate how the caregivers use and understand musical interactions in dementia care:

1. Vitality and communication
2. Connectedness through attunement,
3. A life story soundtrack
4. From anxiety to reassurance.

The linking text outlines the overall research framework and background and includes a discussion of the applicability and the limitations of PAMI as a concept in indirect music therapy practice. Based on this discussion, I conclusively propose recommendations for PAMI training for caregivers. I suggest that music therapists facilitate the PAMI training, as they are specialized in interacting nonverbally and musically.

The thesis is part of the PAMI project located at Aalborg University and is funded by the Velux Foundation and Alzheimer-forskningsfonden.

After successful defence PhD theses are uploaded at: www.mt-phd.aau.dk

# One page summaries

## Alexander Pilgaard Kaiser: Music-evoked autobiographical memories in Alzheimer's disease

Supervisor: Prof. Dr. Dorthe Berntsen, AU

In healthy adults, autobiographical memories (AMs) evoked by music appear to have unique cognitive characteristics that set them apart from AMs evoked by other cues. If this is the case, we might expect music cues to alleviate AM deficits in Alzheimer's Disease (AD), especially given the relatively preserved musical abilities in this group. In a systematic review (Kaiser & Berntsen, 2022) we reviewed music-evoked autobiographical memories (MEAMs) in AD and identified 12 studies.

We found that music consistently evokes AMs in AD, and that familiar music (especially from the participant's youth) was more likely to evoke AMs. Studies that examined a larger selection of songs found no difference between AD and the healthy control groups in frequency of MEAMs. Several studies investigated the specificity of the AMs in AD and generally found this to be reduced compared to healthy controls, but significantly improved by music. There was a relative advantage of music cues, as only memories evoked by pictures showed a decline in frequency and specificity compared to healthy controls. There were, however, similar specificity ratings when comparing with odors. MEAMs in AD as well as for controls, were generally retrieved fast and positively valenced.

In our upcoming study, we will investigate further whether music cues are special compared to other cues for people with AD through event-specific cues. The participants will be presented with stimuli related to 9 specific events in their life, (i.e., birthdays, weddings) either in form of music (i.e., birthday songs, wedding waltz), pictures dated to their youth (1957-1967), or word cues of the name of the event. After the stimulus presentation, they will be asked to report if they had any autobiographical memories during the presentation. If yes, they are asked to report this memory in as much detail as they can in three minutes. Lastly, they will be asked to rate the valence of the memory. These memories are then transcribed and coded based on the presence of spatiotemporal details (specific event located in time versus repeated or general event) and internal characteristics (e.g., phenomenological details).

## Daniele Pendeza: Music Therapy Sensory Profile: an assessment tool for children development

**Title of the study:** Music Therapy Sensory Profile: an assessment tool for children development

**Research question:** Can the assessment be constructed in a valid and reliable way to provide a sensory profile of the child in the music therapy session?

**Research design:** It is a psychometrical study design divided in three main phases.

**Method:**
**Part I:** In the first phase, it will be done a scope review. The data will be referring about children between 0 and 5 years old (early childhood) and about the links between Music Therapy and Sensory Systems during this ages. This data will be analyzed through a discursive textual analysis, that intends to compute the contents in common between the different texts forming categories; naming of the emerging categories and, finally, creation of the metatext and interpretation of the data, obtaining the second version of the MTSP in two languages.
**Part II:** In the second phase, a conceptual analysis of the terms involving the theory of sensory systems and the integration of these systems will be carried out. Its relationship with Music Therapy will be investigated and then a specific sensory profile for the area will be proposed, thus creating the first version of the MTSP. The scale will be aimed at children between 0 and 5 years old (early childhood). The next step is the cross-cultural adaptation of the pretend scale. Board-certified music therapists, with experience in assessment in music therapy will be consulted. In this group, half will be fluent or native in Portuguese, and the other half in English, to realize a cross-cultural adaptation in both languages. The experts' assessment serves to identify whether the items and the scale as a whole serve the purposes for which it is proposed.
**Part III:** After the refinement of the scale items, the third phase of the study will begin. First, the proposal will be sent to ethics committees in each country where the study will be carried out. After approval Music therapists will be asked to use the scale with their target audience (children between 0 and 5 years old) in order to perform the last phase of the study, which refers to the evidence of reliability and validity of the scale. The evidence of reliability demonstrates whether the scale is stable and consistent (different music therapist assessing the same video of a session of music therapy), using Cronbach's alpha coefficient. Likewise on similar measures using the convergent validity evidence with the Sensory Profile 2 scale for comparison, resorting the Pearson ρ test, in order to cherish if different measures of the same construct are correlated with each other, reaching the final version of the MTSP.

**Current state of the study:** the study has not yet started.

**Topic for the presentation:** I will present about the importance of having a specific instrument in the area of Music Therapy to investigate the sensory profile of children with developmental disorder alerts and how this can affect clinical practice.

## Hannah Riedl: Setting the scene for my PhD. Music Therapy and Health Economics: Scoping review, SROI analysis and application guide

**Supervisors:**
1. Ulla Holck, PhD (Aalborg University)
2. Dr. Christian Grünhaus (Vienna University of Economics and Business)

**Working title of the study:** *"What is the Value of Music Therapy?" Music Therapy and Health Economics: Scoping review, SROI analysis and application guide*

**Current state of the study:** Writing the PhD plan
**Research design:** Multiple-strategy design, consisting of three sub-projects

### Sub-project 1

**Main research questions:** What is the existing body of research and literature on music therapy and health economics?
**Method: Scoping review**
Inclusion criteria: Full or partial economic evaluations in music therapy (MT), music-based interventions (MBI) or music medicine (MM) (e.g. cost-effective analysis, cost-benefit analysis, ost-analysis); literature on economics and cost calculations in MT, MBI or MM. It is important that calculations and considerations in monetary terms have to be specifically stated.
Search strategy: Databases (e.g., HEED, VHL, PubMed, Embase), grey literature, hand search in journals, expert consulation, and citation "snowballing"

### Sub-project 2

**Main research question:** What is the social return on investment (SROI) of music therapy, provided in a private practice setting for young people (ages 14 to 24) with mental health issues in Austria?
**Method: Social return on investment (SROI) analysis**

### Sub-project 3

**Main research question:** How can perspectives of health economics be integrated into future music therapy studies?
**Method: Developing an application guide**

**Topics for the presentation:**
In this presentation, I will 1) give a context for the PhD study, 2) present the concrete sub-projects, and 3) discuss methodological considerations of the scoping review in detail (sub-project 1).

## Julie Ørnholt Bøtker: The curiously abstract and practical concept of authenticity and the phenomenon of "floating-anchoring" as a professional tool of consciousness.

**Supervisor:** Associate Professor, Ph.D. Stine Lindahl Jacobsen, Aalborg University

**Title of the study: The concept of authenticity and its meaning and applicability within music therapy, music teaching and music performance in a family-oriented context**. The research project serves as follow-up research within the MUFASA-research project lead by Stine Lindahl Jacobsen in cooperation with Ulla Holck and Gustavo Gattino.

**Research questions:**

- **How can the concept of authenticity be defined and understood** across the three different professions of music therapists, music teachers and music performers in a family-oriented context? Including: What could be the benefits and challenges for the professionals working with families in relation to the concept of authenticity?
- **How is an experience of being authentic** as a music therapist, music teacher or music performer **connected to the experience of the relation** to the participating families?
- **How can the experiences and reflections from professionals** within the three musical professions **broaden and inform disciplines**, on a practical and theoretical level, based on the concept of authenticity?

**Research design**: The PhD study is conducted within the qualitative research paradigm, applying interpretivist methods in the research design. The goal of the research methods is to discover and unfold meaning in the music professionals' subjective experiences of their own authenticity/inauthenticity as professionals. I wish to search for patterns and similarities across the three different disciplines and relate my findings to relevant literature. I therefore apply phenomenological and hermeneutical research approaches in the overall design.

**Method**: Epoché-writing. Elaboration of the epoché through the Repertory Grid software. Preliminary semi-structured interviews with three music professionals. Thematic coding analysis. Semi-structured interviews with the music professionals participating in the MUFASA-project; group interviews and solo interviews, using video excerpts from the MUFASA-project as part of the interview process. Deductive as well as inductive thematic coding analysis of the interview transcripts. Member-check and written feedback from participants. Triangulation of the findings with existing literature and with my own epoché.

**Current state of the study:** Article no. 1, in which the findings from the preliminary interviews is disseminated, has been accepted for publication in www.voices.no. (Yehaaa!!) Data analysis of MUFASA-interviews has been completed and article no. 2 is in the making. Parallel to this, collecting theoretical material for article no. 3 and preparation for the linking text is taking its start.

**Topic for the presentation:** In my presentation I would like to go through my latest process of analysis and present the overall findings from the data analysis of the 6 MUFASA-interviews. I would also like to discuss some thoughts on epistemology and on the possible contribution of this research project to the field(s).

## Kerry Devlin: "Therapy doesn't work one way": Teaching Clinical Perspectives in an Undergraduate Music Therapy Course in the United States

**Supervisors:** Dr. Hanne Mette Ridder, Dr. Anthony Meadows

**Title of the study:** Developing a Case Formulation Pedagogy for Undergraduate Music Therapy Students in the United States

**Research questions: (for the current phase)**

1. How does the integration of decision-making and case formulation models into *MUTH 205 Didactic Music Therapy Practices* impact the design of this undergraduate music therapy course?
    a. What impact does this have on course structure and delivery?
    b. How do students receive and experience course materials when delivered with this intention?
    c. What challenges arise for faculty when delivering the course from this perspective?
    d. What are the implications of this learning experience for faculty and students?
    e. What are the implications for undergraduate music therapy education in general?

**Research design:** This dissertation will be completed through a three-article series. The first article is a literature review explicating the core components of psychotherapy case formulation and comparing them with decision-making processes in music therapy. Article two, which is currently underway, is real world research focused on delivery of undergraduate MT course focused on teaching two different clinical perspectives to students. Article three will emerge as data from article two is analyzed, but will likely involve narrative explication of one case using decision-making and case formulation frames

**Method:** This series of projects are qualitative and feature an emergent design in which each article's focus and design is informed by the article that precedes it. Article two has characteristics consistent with real world research in which the researcher collects data while evaluating their own pedagogy as related to teaching clinical perspectives (e.g., decision-making and case formulation) to undergraduate students. Article three will likely be descriptive , narrative, and interpretive in nature,.

**Current state of the study:** Article one is accepted to the Nordic Journal of Music Therapy with revisions (due 12/8/22), and data collection is currently underway for article two.

**Topic for the presentation:** Overview of article two with an emphasis on teaching processes related to the design and delivery of MUTH205 Didactic Music Therapy Practices, which involves teaching undergraduate students two different ways of understanding clients (decision-making and case formulation). Emergent themes related to instructor and student learning will be shared.

## Rut Wallius: Finding the key ingredients of a Music therapy intervention to support the reunification of children in care with their parents – or how do I begin a literature review?

**Supervisors**: Principal supervisor: Dr Stine Lindal Jacobsen, AAU. Co-supervisor: Dr Alexandra Ullsten, Centre for Clinical Research, Region Värmland, Sweden.

**Title of the study**: Music therapy intervention to support the reunification of children in care with their parents

**Research questions**: The overarching purpose of this study is to better understand music therapy as an intervention within the field of Child protection, during the reunification process, between a child in care and the child's parents.

1. How is music therapy during the reunification process between a child in care and the child's parents, experienced by the children and the parents?
2. How is music therapy during the reunification process between a child in care and the child's parents, relevant in relation to how parents mentalise their child?
3. How is music therapy during the reunification process between a child in care and the child's parents, relevant in relation to the interaction between children and parents in families at risk?

**Research design**: The study has a qualitative/interpretivist approach. The proposed structure of gathering mixed data, allows for a quantitative, explorative method in combination with a qualitative, hermeneutic approach, which in turn will allow a triangulation of the findings.

**Method**: A structure of four parts is suggested. **Part one** is based on a semi-structured interview, performed by an independent family counsellor, with a dyad of a parent and a child who has experienced music therapy as an intervention during the reunification process. **Part two** of the study will focus on developing a music therapy intervention based on the results from the collaborative interview performed in part 1. **The third part** of the study consists of implementing the music therapy intervention as well as collecting a range of mixed data relating to how the parent mentalise the child and to the interaction and the quality of the interaction between child and parent in the reunification process. Data will be collected through video-clips from assessment sessions with the dyad, video-clips from the music therapy sessions with the dyads, audio-recorded counselling sessions with the parents and collaborative interviews with the dyads. **The fourth part** of the study includes the analysis and comparison of the collected data.
**Current state of the study**: A first collaborative interview with a family-dyad and a music therapist is being prepared with the help of an independent

**Topic for the presentation**: The presentation will focus on how to perform a literature review connected to part two of the study. Part two includes an article discussing the treatment approach identified through the interview. The article will also discuss how the treatment approach interacts with and relates to research and clinical practice of music therapy with families at risk, and to previous research about contact between children in care and their parents.

## Sheila Pereiro Martínez: Building my own identity as a researcher: challenges, reflections, and learnings

**Supervisor:** Bolette Daniels Beck

**Titel of the study:** Music Therapy in Patients during the Process of Disconnection from Mechanical Ventilation (weaning) in the Intensive Care Unit (ICU): A Randomized Control Trial (RCT) Study

**Research questions:**

- Does music therapy intervention affect the duration of the process of disconnection from mechanical ventilation (weaning) in an experimental group of critically ill patients in an intensive care unit (ICU) receiving music therapy intervention, in comparison with a control group of critically ill patients receiving the usual clinical protocol of weaning (without intervention with music therapy)?
- Does music therapy intervention affect the average dose of sedation and analgesia needed during the process weaning?
- Does music therapy intervention affect the agitation during the process of weaning?
- Does music therapy intervention affect delirium during the process of weaning?
- Does music therapy intervention affect the perception of pain during the process of weaning?
- Does music therapy intervention affect the blood pressure, heart rate, breathing rate and oxygenation level during the process of weaning in the experimental group, in comparison with themselves?
- Does music therapy intervention affect perceived stress during the process of weaning?

**Research design:** Randomized Control Trial (RCT) with parallel groups
**Method:** This study is a quantitative research and statistical analysis methods will be applied in order to answers the research questions.
**Current state of the study:** The research study was designed and discussed by the different work teams involved in the development of it: University Hospital of Vitoria-Gasteiz (Basque Country), BIOARABA (Health Research Institute of Basque Country) and Música, Arte y Proceso Institute. Data collection is close to be finalised.

### Topic for the presentation:

The process of becoming a researcher is a great challenge for any music therapist focused on clinical intervention. The research attitude understood as the continuous curiosity, the need to ask myself questions, the ability to explore different options, ... has always been present in me. But to leave this mental space of being a researcher thinking in a formal way is offering me a great challenge. It involves a process in which new learning intersects with contradictions and ignorance, motivation sometimes accompanies blocking or doubt, doing with thinking… Science, creation and the capacity for amazement. There are many questions that come to me along this journey that is the realisation of a PhD. Among them, I reflect on whether being a researcher requires "simply" the development of a series of new tasks or new roles, or whether it requires a series of aptitudes and attitudes that induce a deeper and more permanent internal change. I also question whether this develops a research identity. This identity can be understood as a development of the changing self, but how does this process progress?
In my reflection, I have found that this process offers varied opportunities to bring into dialogue diverse fields of knowledge, ethical principles, interests, and especially, dialogue with myself and my fears and strengths, chaos and structure, focus and divergence, new learning and the known.I consider this process of building my own research identity as a creative process where the creative psyche, the curiosity and the systematisation and rigor offer a real "road to Ithaca". Thus, this presentation offers an interesting opportunity to collect, deepen and share my reflections.

## Lectures and workshops at the course

### Brynjulf Stige: Revisiting the agenda (EPICURE) for evaluating qualitative research

Brynjulf Stige is professor of music therapy at the University of Bergen.
Research profile: https://www.uib.no/en/persons/Brynjulf.Stige#uib-tabs-research

**Literature to read for the lecture:**

Stige, B., Malterud, K., & Midtgarden, T. (2009). Toward an agenda for evaluation of qualitative research. *Qualitative health research, 19*(10), 1504-1516. https://journals.sagepub.com/doi/epdf/10.1177/1049732309348501

### Elizabeth Jochum: Creating the Bridges: A Mixed Method Study on Dance and Movement Therapy to Reduce Loneliness for Family Caregivers of Children with Disabilities

While the positive effects of dance and movement therapy (DMT) for mental and physical outcomes are well-documented, much less is known about the underlying mechanisms or the psychosocial benefits of DMT for clinical and subclinical populations. Recent studies focus on identifying the mechanisms within DMT (Weidenhofer, 2016; Koch, 2017; Imus, 2021), but there is still a general lack of established benchmarks and empirical evidence for DMT, and particularly for family caregivers of children with disabilities. This lecture presents the results of a pilot study of DMT interventions for family caregivers of children with disabilities experiencing loneliness and social isolation. The mixed-method design utilizes new evaluation instruments in a pilot study conducted in two countries. These tools can be adapted for different clinical and subclinical populations to strengthen the validity and reliability of measurement tools for dance and other movement-based interventions.

**Elizabeth Jochum** is an associate professor and the head of the RELATE Research Laboratory for Art and Technology. Her work involves transdisciplinary collaboration in human-robot interaction, health, and engineering with a focus on critical and creative approaches to health and wellbeing.

**Suggested Reading**:

Koch, S. C., Riege, R. F. F., Tisborn, K., Biondo, J., Martin, L., & Beelmann, A. (2019). Effects of Dance Movement Therapy and Dance on Health-Related Psychological Outcomes. A Meta-Analysis Update. Frontiers in Psychology, 10:1806. https://doi.org/10.3389/fpsyg.2019.01806

## Hanne Mette Ridder & Ulla Holck: Workshop: The literature review for doctoral research

In this workshop we will take a view on the vast amount of literature review methods, and after this share our own path when it comes to carry out a literature review for the doctoral study. We will work in groups on methods relevant for your research.

**Ulla Holck**, MA, PhD, DMTF, Associated Professor at the Music Therapy programme at Aalborg University, Denmark, and Head of the Danish Center for Documentation and Research in Music Therapy at Aalborg University (www.cedomus.aau.dk). Research profile: https://vbn.aau.dk/da/persons/107638

**Hanne Mette Ochsner Ridder**, PhD, DMTF, is professor of music therapy and coordinator of the PhD Specialisation in Music Therapy at Aalborg University, Denmark. Research profile: https://vbn.aau.dk/da/persons/hanne-mette-ridder

**Suggested Readings**:


Abbott, E. A. (2016). Reviewing the literature (pp. 56-65). In B.L. Wheeler & K.M. Murphy (Eds.) *Music Therapy Research* (3rd Ed.). Barcelona Publishers.

Alvesson, M. & Sköldberg, K. (2018). *Reflexive methodology. New vistas for qualitative research*. Sage.

Matney, B. (2018) Understanding literature reviews: Implications for music therapy. *Nordic Journal of Music Therapy, 27*(2), 97-125, https://doi.org/10.1080/08098131.2017.1366543

Munn, Z., Peters, M. D., Stern, C., Tufanaru, C., McArthur, A., & Aromataris, E. (2018). Systematic review or scoping review? Guidance for authors when choosing between a systematic or scoping review approach. *BMC medical research methodology, 18*(1), 1-7


## Lisbeth Frølunde: The challenges of applying an arts-based, collaborative approach in the "Dancing with Parkinson's" research project

The presentation concerns a Danish research project "Dancing with Parkinson's" (funded by the VELUX Foundation, 2019-2022) led by Roskilde University with partners Tivoli Ballet School and the Danish Parkinson's Association. Central questions addressed in the presentation will be how the art forms of visual art, dance, music, and literature were integrated in the collaborative research design, and what sorts of challenges were found in applying an arts-based, collaborative approach, especially in the co-production of a graphic novel book. Two samples of project documentation will be presented: a video from a symposium (showing dancing, singing and an interdisciplinary panel debate), and the co-produced graphic novel book published as *Mens vi bevæges* (Frølunde et al. 2021) and Moving Along in the international English version (Frølunde et al. in press 2022).

Lisbeth will open for broader discussion about the challenges and tensions in collaboration across art forms, disciplines and settings, and the ethics of applying arts-based emergent processes in research with vulnerable groups (see Phillips et al. 2022).

**Lisbeth G. Frølunde** (Frolunde). My main research interests are visuals and stories and the body especially the gaze of a self as "outsider" upon oneself and with how we look or gaze at each other and the flow of affect in communication. I am fascinated by all forms of visual

narratives (comics, games, films, drawings, and photos) as research data and in research dissemination. Visuals can express such different qualities about existence, lead to continual interpretations and reactions, and shape our personal, cultural, and political histories. Core concerns are the inter-relations between bodily experience, identity, health and the arts.
In my recent research, ethical issues of health care, memory, affect, family, and illness are prevalent. I was co-initator of the Dancing with Parkinson's collaborative research project (2019-22) and facilitated arts-based workshops leading up to co-production of the graphic novel Moving Along. I often explore subjectivity and what it means to have multiple perspectives, fields of practice and roles, in my case, as researcher of Parkinson's dance, family caregiver (my husband has Alzheimer's and Parkinson's disease), and artist.
I grew up in a Danish family but lived mainly in the USA until 1991. My formal education is a BFA in Visual Arts from Antioch University, USA, an MA in Expressive Arts Therapy from Lesley University, USA, and a PhD from the Danish School of Education, Aarhus University. My work background includes being expressive arts therapist in psychiatric hospitals and multi-media designer/illustrator in the Boston area, arts project leader for the Danish Red Cross Asylum Dept., and concept developer of software and games for the LEGO Group. I have been employed at Roskilde University since completing my PhD in 2009.

**Literature to read for the lecture:**

Phillips, L. J., Christensen-Strynø, M. B., & Frølunde, L. (2022). Arts-based co-production in participatory research: harnessing creativity in the tension between process and product. *Evidence & Policy: A Journal of Research, Debate and Practice, 18*(2), 391–411. https://doi.org/10.1332/174426421X16445103995426

**Further information on the "Dancing with Parkinson's" research project**

The project had two overall aims: to create research-based knowledge about and further develop dance as a form of collaborative, person-centered treatment of Parkinson's (and other diseases); and to provide research-based knowledge about, and develop, collaborative, participatory arts-based research, in which people outside the university and university researchers co-produce knowledge. The research methodology ascribed value to participating dancers as co-researchers and their specific embodied experiences and narratives (expressed in poems, songs, interviews, dances, etc.) using a dialogic, narrative interpretive framework. The research emphasizes the critical importance of dancers' own experiences, so as to gain a more nuanced understanding of how Parkinson's dance affects lives, for example, revitalizing sensuality, and in social, cognitive, emotional, and aesthetic ways (Christensen-Strynø et al., 2021). Project participants included 3 researchers, 43 dancers/co-researchers (people who have Parkinson's disease and their partners), and 7 dance facilitators (from 5 dance classes). The project's steering group and advisory board were very engaged in the research project, as well as 2 book illustrators.

The facilitation of dance for people with Parkinson's disease can be characterized as a growing social movement which has become a worldwide phenomenon, especially due to the spread of Dance for PD® (based at the Mark Morris Dance Group, New York). The use of Dance for PD® and various dance movement approaches raises questions about the meaning and importance of dance (and music and other art forms) in relation to Parkinson's, as well as to other chronic conditions and to ageing (see Christensen-Strynø et al. 2021, 2022).

## Ming Hsu: Developing music therapy interventions in care homes and hospital dementia inpatient settings

One in five care homes in the UK is rated as 'inadequate' or 'requires improvement' by the regulatory body, Care Quality Commission. In National Health Service (NHS) hospitals, Inpatient Psychiatric Dementia Wards (IPDW) often experience high levels of patient agitation, and staff can experience more associated physical assaults than UK prison officers. Therefore, interventions are needed to improve safety, quality of care, and life for service users and staff in these settings. This presentation focuses on two current PhD studies looking to develop tailored music therapy interventions. Based on the framework for developing and evaluating complex interventions proposed by the UK's Medical Research Council and National Institute for Health and Care Research, the presentation will discuss methodologies relevant to the steps of the Development phase. These steps include: 1) planning; 2) involving stakeholders; 3) forming a team with relevant expertise; 4) reviewing existing literature and theories; 5) developing, testing and refining programme theory; 6) drawing on primary data; 7) understanding the context of the intervention; 8) considering future implementation; 9) refining the intervention and 10) ending the development phase, including writing up the process.

**Literature to read for the lecture:**

Skivington, K., Matthews, L., Simpson, S.A., Craig, P., Baird, J., Blazeby, J.M., Boyd, K.A., Craig, N., French, D.P., McIntosh, E. and Petticrew, M., 2021. Framework for the development and evaluation of complex interventions: gap analysis, workshop and consultation-informed update. https://www.repository.cam.ac.uk/bitstream/handle/1810/330309/3037639.pdf?sequence=1

**Dr Ming-Hung Hsu** is a Music Therapist and a Senior Research Fellow at the Cambridge Institute for Music Therapy Research, Anglia Ruskin University. Ming previously worked as Music Therapy Lead for a UK national charity providing accommodation, care and support services to older people. His research interests are mainly in dementia care, looking at how the role of music therapists can help personalise dementia care and support caregivers. Ming is a trial manager on the EU JPND-funded HOMESIDE study, investigating the benefits of music and reading activities for people living with dementia and their family caregivers at home. He is also a Co-investigator on the MusiCare study funded by the Dunhill Medical Trust, examining the effects of individual and group music therapy on cognitive ageing.

## Patricia Davies & William Gavin: Using Electroencephalography (EEG) to Understand Sensory and Cognitive Processing Deficits in Clinical Populations

In this presentation Patricia Davies (presenter) and William Gavin (co-author) will orient participants to electroencephalography (EEG) and how it can be used to measure sensory and cognitive processing in children and adults. We will explain sensory processing disorders and the symptoms that hinder participation in everyday activities. We will discuss how EEG can be used for separating different clinical groups depending on sensory and cognitive neural processing characteristics. The presentation will highlight some of the studies that we have conducted in our lab that include children and adults with and without disabilities.
Patricia Davies

**Patricia (Patti) Davies** received her PhD in neuroscience and developmental psychology from the University of Wyoming, USA. Dr. Davies is currently a Professor in the Departments of Occupational Therapy and Molecular, Cellular and Integrative Neurosciences at Colorado State University. She is also the Director of the Brainwaves Research Laboratory. Prior to obtaining her PhD, she was an occupational therapist providing occupational therapy services in various pediatric settings, including public schools, preschools, residential schools, and hospitals. Her research focuses on the development of cognitive and sensory processing abilities in the human brain using electroencephalography (EEG) and event-related potentials (ERPs). She investigates both normal development and development in individuals with disabilities such as sensory processing disorders, autism, and ADHD. She has also been involved in a project using Brain Computer Interfaces (BCI) with adults with severe motor impairments. While visiting Aalborg University she will be working with Dr. Sabata Gervasio and Dr. Steffen Frahm examining sensory thresholds and sensory processing in children with autism. Patti is enjoying cycling on flat terrain in Denmark rather than in high mountains of Colorado. She is also interested in learning about the Danish culture, educational systems, and health care for children with disabilities.

**William (Bill) Gavin**. Since receiving his doctorate degree from the University of Miami, Florida, Dr. Gavin has been conducting research on a variety of topics related to child development. His early research focused primarily on speech and language development in infants and toddlers with an underlying interest in perception and cognitive development. During the past 20 years, in collaboration with Dr. Patricia Davies, he has developed a program of research on sensory processing and cognitive development in children and adolescents utilizing electroencephalography (EEG) and event-related potentials (ERPs) methodologies. Their current efforts focus on investigating the relationships of perception of sensory stimuli with the development of cognition in children using EEG/ERP techniques. A long-standing theme of Dr. Gavin's research efforts has been to understand how the nuances of the methodologies use in their studies influence statistical outcomes, and in particular, ways of controlling measurement error. Their latest efforts involve the use of structural equation modeling techniques to explore the interrelationships of brain (i.e., EEG/ERP) and behavioral measures while controlling for trait and state effects. Their lab is also developing new computational methodologies for the analyzing EEG data at the single trial level.

**Literature to read for the lecture:**

Davies, P. L., Chang, W. P., & Gavin, W. J. (2010). Middle and late latency ERP components discriminate between adults, typical children, and children with sensory processing disorders. *Frontiers in integrative neuroscience, 16*. https://www.frontiersin.org/articles/10.3389/fnint.2010.00016/full

**Supplementary literature:**

Crasta, J. E., Gavin, W. J., & Davies, P. L. (2021). Expanding our understanding of sensory gating in children with autism spectrum disorders. *Clinical Neurophysiology, 132*(1), 180-190. https://www.sciencedirect.com/science/article/abs/pii/S1388245720304958

LaGasse, A. B., Manning, R. C., Crasta, J. E., Gavin, W. J., & Davies, P. L. (2019). Assessing the impact of music therapy on sensory gating and attention in children with autism: a pilot and feasibility study. *Journal of music therapy, 56*(3), 287-314. https://pubmed.ncbi.nlm.nih.gov/31225588/

## Sofia Dahl & Prithvi Kantan: Balancing motivation and information: Embodied metaphors in augmented Sound feedback for movement rehabilitation

Using musical sounds for augmented feedback in rehabilitation holds great promise but also some pitfalls. Music can enhance motivation, relieve the tedium of performing boring and repetitive tasks, and also improve self awareness using an auditory stimulus that most people are familiar with. However, can such a complex stimulus also convey meaningful and precise real-time feedback that can enhance motor learning? In this talk, we will give examples of how we use embodied metaphors in augmented sound feedback for movement rehabilitation and discuss the future outlook.

**Sofia Dahl** holds a PhD in Speech and Music communication from KTH, Royal Institute of Technology, Sweden. As associate professor at Aalborg University, her primary research field is within embodied music cognition, including the extraction of relevant movement characteristics from motion capture data. Sofia Dahl is in the steering committee for the Nordic Sound and Music Computing University Hub, funded by Nordforsk, co-director of Augmented Cognition Lab, and currently serving in the Executive Council of the European Society for the Cognitive Sciences of Music (ESCOM).

**Prithvi Kantan** holds a bachelor degree in Electronics and Telecommunications Engineering from Mumbai University and an MSc. in Sound and Music Computing from Aalborg University, Copenhagen, where he is presently a 2nd year PhD fellow. His primary interest lies in the research and development of music technology for the healthcare domain, while he has also worked with rhythm perception, auditory guidance, and interactive musical sonification.

## Stefan Mainka: Sensor-based music feedback to improve arm swing and gait in Parkinson's Disease

Reduction of arm swing (AS) is an early and common symptom in Parkinson's disease (PD) that is associated with an increased risk of falls. By using the technology of a mobile phone, AS kinematics can be converted into a closed-loop sensor-based music feedback in order to improve the kinematics of gait in patients with PD. The smartphone application CuraSwing incorporates both feedback and feedforward. The latter is driven by the principles of rhythmic auditory stimulation (RAS), which is a well established clinical intervention for gait training. Feedback is created as a dynamic musical output that follows the principles of sonification which is increasingly used in rehabilitation to optimize motor training and learning.

**Dr. Stefan Mainka**, works as a music therapist and clinical researcher at the Parkinson Center Beelitz-Heilstaetten, Germany. He did his doctorate on music-guided treadmill training with stroke patients. He works as an assistant faculty for the academy of Neurologic Music Therapy (NMT) (Toronto, Canada).

**Literature to read for the lecture:**

Mainka, S., Schroll, A., Warmerdam, E., Gandor, F., Maetzler, W., & Ebersbach, G. (2021). The Power of Musification: Sensor-Based Music Feedback Improves Arm Swing in Parkinson's Disease. *Movement Disorders Clinical Practice, 8*(8), 1240-1247. https://pubmed.ncbi.nlm.nih.gov/34761058/