



eKIDS

*technologies for research and intervention
with children and youth*

JACOBS FOUNDATION CONFERENCE
MARBACH CASTLE, 15-17 APRIL, 2015

INTRODUCTION

In this working meeting, leading players in the fields of human development, intervention, and technology will bring their expertise to bear on the question: How can technology help us conduct better research and/or create and deliver better interventions to promote development of children and youth in everyday and particularly under-resourced settings? The creative, forward-looking spirit of the conference is promoted by representation of both senior and early career scholars in our endeavor, including participation by leading ethicists who will add a vital dimension to our work. Capitalizing on the lively exchange the meeting aims to foster, our concrete goals are twofold: first, to spark and foster development of innovative proposals from early career scholars, and second, to develop design and performance criteria for technology in research, with lead from senior career scholars. Recall that Jacobs Foundation Board members and senior staff will attend the conference to discuss follow-up activities or project ideas emerging from the meeting. Such commitment offers us all a particularly motivating opportunity for future work and sets up the meeting as a stepping-stone toward measurable progress in this arena.

Accordingly, we open the first afternoon with a set of orienting talks by early career scholars on relevant areas of human development, intervention, and technology. The reception that evening is tailored to help us get to know one another. The next day follows a workshop format. We will use focal scenarios, one pair in the morning and another in the afternoon, as concrete bases from which to develop answers to our target question about technology's role in better research and intervention. Participants will rotate through working groups in compact rounds during which we will first brainstorm, then develop ideas and designs, and then share results about how technologies could be used to describe household conditions for children (morning session) and to relate parenting practices to child psychosocial functioning (afternoon session). To round off the afternoon session, a member of the avant-garde Disney Research will discuss their research.

The third day will begin with a series of focused charrettes, in which early career scholars pitch their ideas for research and/or development for future work including potential applications to the Jacobs Foundation. All of us will collaborate to strengthen each protocol or proposal. The wealth of creativity, experience, and expertise in the room ensures that this will be a very exciting and productive morning session. Then, in the afternoon, teams of senior scholars will present target design and performance criteria, with ideas or exemplars of how they can be met. Thus, we will push to identify cross-cutting design

and performance criteria that can establish common targets for the field for possible publication as a brief communication (e.g., "Twenty design criteria for technologies to promote developmental potential in the first 5 years") in a leading journal. The wealth of technological possibilities alongside myriad aspects to consider (privacy, culture, cost) will make this a fascinating albeit demanding session.

In the final hour, we will discuss possible avenues for follow-up together with senior staff and Board members of the Foundation. We will map out areas for strategic development, such as for development, validation, or pilot testing/proof of concept research, which either represent "low hanging fruit" and/or are not presently feasible with existing institutional or funding arrangements. After the conference, the early career scholars are eligible to apply for small research grants (currently up to 40,000 Swiss Francs per person, collaborative projects will be given preference) related to the conference topic. These funds will be available only to young scholars attending the conference.

In closing, we thank you for committing the time to participate in the meeting, and look forward to seeing the emergent results from what certainly will be lively, interesting, and synergistic discussions. By pursuing a somewhat unusual, more dynamic interactive process, we hope that the conference will produce pioneering ideas and future work that contribute directly to young people's ability to realize their developmental potential.

Carol M. Worthman, Mary Jane Rotheram-Borus & Antonio Krüger
Conference Organizers

SCHEDULE

WEDNESDAY, APRIL 15, 2015

Arrival

15.00 – 15.30 **Welcome and Opening remarks**

Simon Sommer, Carol Worthman

15.30 – 17.30 **Session 1: Orienting overviews**

Brandon Kohrt – *Social ecology and child development: implications for research and intervention*

Johannes Schoening – *eKids, eFamilies and technologies: a human computer interaction perspective*

Dallas Swendeman – *E-Technology interventions to support child development: Current highlights and emerging opportunities*

Discussion moderated by: Ron Dahl

18.30 – 20.00 Cocktails and get-acquainted activities

20.00 Dinner

THURSDAY, APRIL 16, 2015

9.00 – 12.00 **Session 2: Identifying developmental risk and protective factors among children 0–5 in global settings (workgroups — see next page for details)**

Moderator: Antonio Krüger

12.00 – 13.00 Lunch break

13.00 – 16.00 **Session 3: Linking parenting practices with child outcomes (workgroups — see next page for details)**

Moderator: Mary Jane Rotheram-Borus

16.00 – 16.45 **Synthesis of workgroup results, identifying cross-cutting themes and design criteria**

Discussion initiated by: Ilina Singh, Marc Langheinrich

Discussion moderated by: Mary Jane Rotheram-Borus

16.45 – 17.00 **Charge to scholars:** Simon Sommer

Junior researchers: *What research protocol or project would leverage and advance the welfare of young children in diverse settings?*

Senior researchers: *What are the design and performance criteria for the field for the next generation of e-health research on child development and interventions?*

17.30 – 18.30 **Session 4: Evening Keynote. Visual Computing Research at Disney Research**

Speaker: Aljoša Smolić, Head Advanced Video Technology, Disney Research Zurich

18.30 – 20.00 Working spaces open to junior scholars for developing projects (also open after dinner)

18.30 – 20.00 Senior scholars meet to formulate design criteria, best practices.

Discussion group leaders: Reynaldo Martorell and Patrick Oliver

19.30 Cocktails

20.00 Barbecue

FRIDAY, APRIL 17, 2015

- 8.30 – 12.30 **Session 5:** Protocols and projects to leverage understanding and advance welfare of young children and families in diverse settings: early career scholar groups present
Moderator: Justine Cassell
- 12.30 – 14.00 Lunch break
- 14.00 – 16.00 **Session 6:** Definitive summary of design and performance criteria for technological innovations in global child development research and intervention: senior scholars present
“Twenty design criteria for technologies to promote human development early in life”
Moderator: Gregory Abowd
- 16.30 – 17.30 **New directions to understand and support children and families through technology**
Key emerging issues
Cross-cutting themes
Performance criteria and methods for meeting them
Moderator: Carol Worthman
- Closing remarks:** Simon Sommer
- 19.00 Cocktails
- 19.30 Dinner

SATURDAY, APRIL 18, 2015

Departure

DETAILED INFORMATION FOR WORKGROUPS ON THURSDAY

These workshops focus on scenarios as a vehicle for concretely addressing our core question, namely:

How can technology help us conduct better research and/or create and deliver better interventions to promote development of children and youth in everyday and particularly under-resourced settings?

Participants will be assigned to initial working groups and then rotate. Moderators will describe goals, working process, and timeline for sessions, and review the scenarios for the group participants.

9.00 – 12.00

Session 2: Identifying developmental risk and protective factors among children 0–5 in global settings

Workgroups to identify developmental risk and protective factors in young children in global settings, starting with a concrete scenario to define an approach and proceeding to design features that will be broadly applicable to developmental research.

Moderator: Antonio Krüger

Goals

Use sample scenarios to think through how we can use technologies to describe household and living conditions for children, youth, and their families:

- Identify ways to characterize key dimensions of context and development
- Integrate different levels of information (e.g., about child, household, neighborhood)
- Identify ways to collect comparable data
- Develop superior (e.g., less invasive, less expensive, more effective) intervention strategies

Group leaders

Participants will be assigned to groups upon arrival at Marbach.

A: Yvonne Rogers and Michael Russell

B: Mark Billingham and Roel Hermans

C: Michaela Riediger and Alastair van Heerden

D: David Mohr and Rachel Goldberg

E: Candice Odgers and Nicolai Marquardt

SCENARIO 1

Family 1: Swiss or US American family with one young child, urban setting

Round 1: throw out ideas, no criticism in the first round (20 min)

1st 5–10 min write down own ideas on worksheets provided. Each person contributes (key factors, approaches, limitations)

SCENARIO 2

Family 2: Rural, farming family in northern Thailand or western China

Round 2: throw out ideas, no criticism, similar to the first round (20 min)

1st 5–10 min write down own ideas on a worksheet provided. Each person throws in ideas (key factors, approaches, limitations)

Round 3: develop the ideas (30 min)

Identify key questions

Generate possible e-solutions

Tackle cross-cutting themes

Identify barriers, ethical and other challenges

Round 4: formulate approach; prepare to present (30 min)

Design, meeting design criteria

Consult with other groups as desired

5: Present (45 min)

7–10 min/group: use document projector to show scheme, or bring in poster boards 10 min at end of presentation time: say what worked/what did not to improve process in future

12.00 – 13.00

Lunch break

13.00 – 16.00

Session 3: Linking parenting practices with child outcomes

Workgroups on the relationship between parenting practices to children's executive functioning, emotional coping and self-control strategies, i.e., developmental processes to children's outcomes. Again, start with a concrete scenario and proceed to design features that will be broadly applicable to developmental research and interventions.

Moderator: Mary Jane Rotheram-Borus

Goals

Use the scenarios to think through how we can use technologies to develop technologies to relate parenting practices to child executive functioning and socio-emotional functioning. Design criteria include the abilities to:

- Integrate different levels of information
- Identify ways to collect comparable data
- Identify the low-hanging fruit
- Support improved (e.g., less invasive, less expensive, more effective) intervention strategies

Group leaders

A: Mark Tomlinson and Sevasti-Melissa Nolas

B: Rutger Engels and Svetlana Yarosh

C: Gillian Hayes and Antje Rauters

D: Isabela Granic and Florian Schaub

E: Manuel Sprung and Stephen Schueller

SCENARIO 3

Family 1: Ugandan single parent mother in Kampala with three young children

Round 1: throw out ideas, no criticism in the first round (20 min)

1st 5–10 min write down own ideas on worksheets provided.
Each person throws in ideas (key factors, approaches, limitations)

SCENARIO 4

Family 2: Ugandan father, a labor migrant, with the mother living in a rural setting and is farming

Round 2: throw out ideas, no criticism, similar to the first round (20 min)

1st 5–10 min write down own ideas on worksheet provided
Each person throws in ideas (key factors, approaches, limitations)

Round 3: develop the ideas (30 min)

Identify key questions

Generate possible e-solutions

Tackle cross-cutting themes

Identify barriers, ethical and other challenges

Round 4: formulate approach; prepare to present (30 min)

Design, meeting design criteria

Consult with other groups as desired

5: Present (45 min)

7–10 min/group: use document projector to show scheme, or bring in poster boards 10 min at end of presentation time: say what worked/what did not to improve process in future

16.00 – 16.45

Synthesis of workgroup results, identifying cross-cutting themes and design criteria

Discussion initiated by: Ilina Singh, Marc Langheinrich

Discussion moderated by: Mary Jane Rotheram-Borus



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