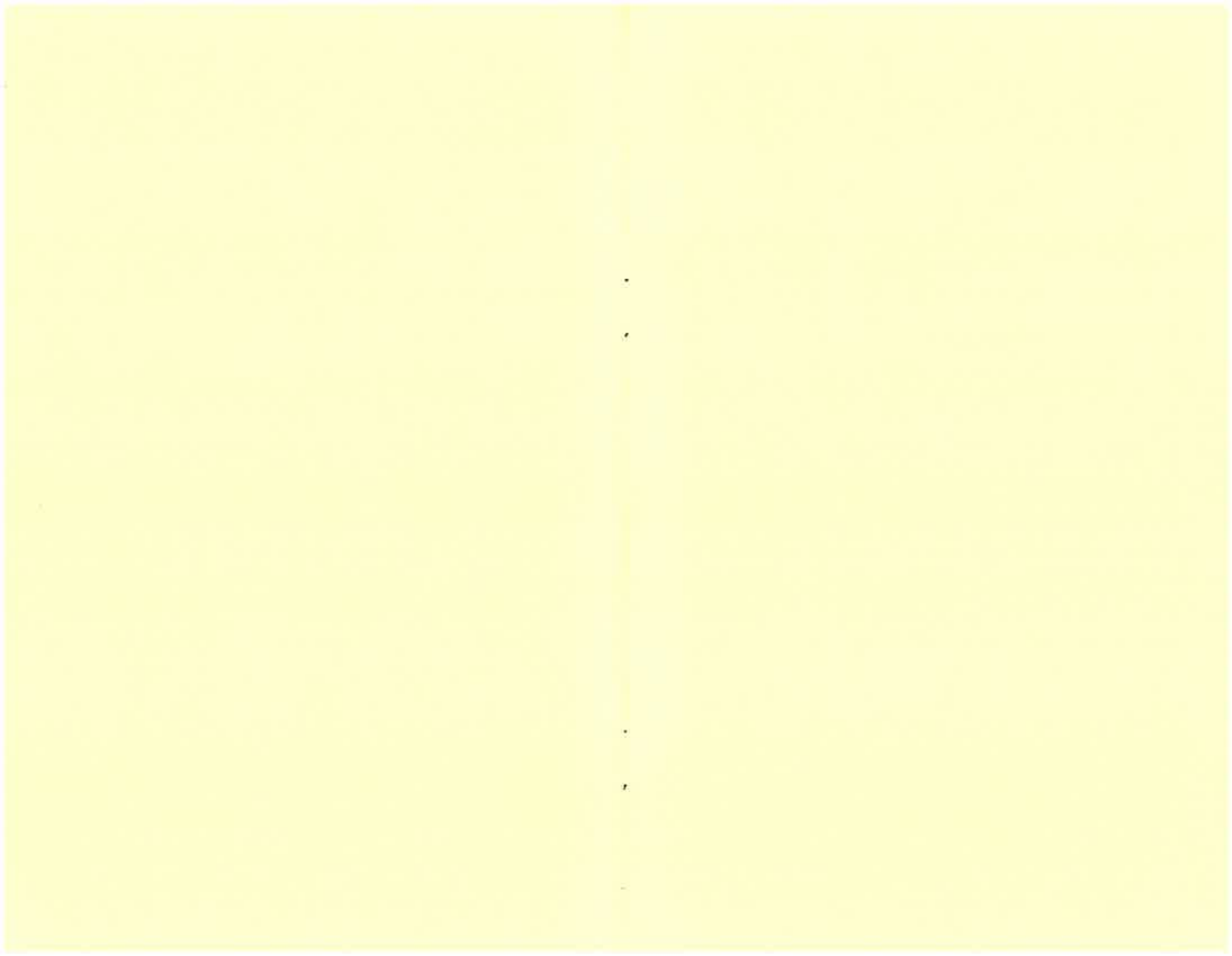




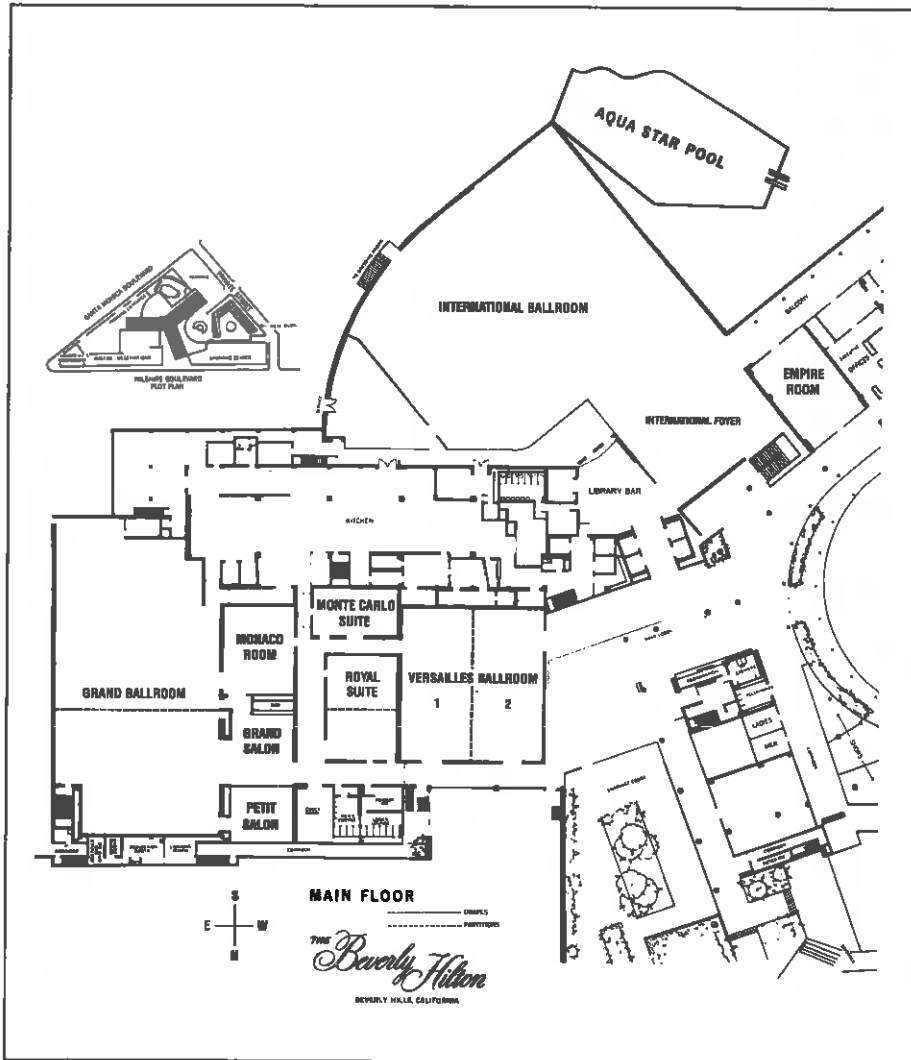
**International Conference  
on Infant Studies**

**10-13 April 1986  
Los Angeles, California**



# FIFTH BIENNIAL INTERNATIONAL CONFERENCE ON INFANT STUDIES

April 10 - 13, 1986  
Beverly Hilton Hotel  
Los Angeles, California



The goal of the fifth International Conference on Infant Studies, like that of the preceding four conferences, is to provide an interdisciplinary forum in which to present ideas and research as well as an opportunity to interact with other professionals who study or work with infants.

The Program Committee would like to thank all who submitted abstracts. We received about 400 submissions. The distribution by research area was as follows: Biological Processes: 7%; Perception & Attention: 15%; Communication, Play, & Language: 8%; Cognition & Intelligence: 8%; Clinical-Pediatric Complications: 11%; Clinical-Psychopathology: 4%; Parent-Child Interaction: 19%; Social & Emotional Development: 12%; Early Environments: 4%; Foreign Submissions: 12%.

Support for publication of this program was provided by the Johnson and Johnson Baby Products Company.

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Chair: Marian Sigman

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<b>ZELAZO P</b>
<b>ZEPEDA M</b>
<b>ZESKIND P</b>
<b>ZUKOW P</b>

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- Edward Goldson
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- Alan Seay
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- George Butterworth
- Richard Aslin
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- Peter Juszyk
- Daphne Maurer
- Alan Slater
- Holly Ruff
- Susan Rose
- Gerald Turkewitz
- Albert Jonas
- Catherine Tamis-LeMonda

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- Christoph Heinicke
- Mary O'Connor
- Cindy Bernheimer
- Nancy Hubert
- Kiki Roe
- Nancy Kasari
- Connie Kasari
- Kathy Sanders-Phillips
- Sarale Cohen

We would like to thank Holly Fesh, Angie Pena, Mari Triana, and Nurit Yirmiya for their assistance in organizing and preparing the program.

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## GENERAL INFORMATION

### REGISTRATION

will take place in the hotel lobby on Thursday from 8:00 A.M. to 6:00 P.M., Friday from 8:00 A.M. to 6:00 P.M., and Saturday from 8:00 A.M. to 12:00 noon.

### MEETING ROOMS

are located on the main floor of the Beverly Hilton Hotel. We have made an attempt to keep particular research areas in the same room throughout the conference. For the most part, the Monaco Room and Royal Suite will have programs on physiological and perceptual development, the Versailles Ballroom 1 will have programs on social/emotional development and mother-child interaction, and the Versailles Ballroom 2 will have programs on high-risk infants.

All poster sessions will be held in the International Ballroom. Morning poster sessions will be held from 9:00 - 11:00 A.M. and afternoon poster sessions will be held from 1:30 - 3:30 P.M. Posters will be arranged according to the numerical order listed in the program. Participants are expected to be with their posters throughout the scheduled time periods.

### CONFERENCE ABSTRACTS/BOOK EXHIBITS

will be available in the Empire Room on Thursday through Saturday.

### CONTINENTAL BREAKFAST

will be sold between 7:00 A.M. and 9:00 A.M. in the foyer of the International Ballroom.

### GALA DINNER

will be held on Friday, April 11 from 7:00 P.M. to 10:00 P.M. at the George C. Page Museum. This museum exhibits mammal and bird fossils from the Ice Age found in the surrounding La Brea Tar Pits and demonstrates methods of acquisition and reconstruction of fossils. The museum has a central tropical garden. Buses will be available between the hotel and museum throughout the evening. Tickets cost \$25.00 per person and can be purchased at the Registration desk until Friday noon.

### SOCIAL HOURS

will be held on Thursday and Saturday evenings from 5:15 - 7:00 P.M. Cocktails will be available.

### CONFERENCE OFFICE

will be located in Parlor A in the lower level of the hotel.

### BUSINESS MEETING

will be held on Sunday, April 13, from 12:00 - 1:00 P.M. in the Grand Ballroom.

	<b>MONACO ROOM</b>	<b>VERSAILLES BALLROOM I</b>	<b>THURSDAY VERSAILLES BALLROOM II</b>	<b>ROYAL SUITE</b>	<b>INTERNATIONAL BALLROOM</b>
12:00	Invited address: Peter Bavin: The links between vision and touch in the first year of life	Symposium: What goes on inside parents' heads?	Oral Presentations: Communication, play and language	Oral Presentations: Gender development 12:00-12:45	
1:00	Symposium: Infant timing			Early abilities 12:50-2:40	Poster session: 1:30-3:30
2:00		Symposium: Cultural and developmental aspects of interaction patterns in adolescents and their infants	Symposium: Individual differences in facial expression		
3:00	Symposium: Usefulness of animal models for understanding visual development			Mother-child interaction 2:45-4:00	
4:00					
5:00			Invited address: Alan Sroufe: The role of infant-caregiver attachment in development GRAND BALLROOM		
7:00			SOCIAL HOURS GRAND BALLROOM		

- SCHER M**  
**SCHMIDT H**  
 U. OF PENNSYLVANIA  
**SCHMIDT M**  
 U. OF HOUSTON  
**SCHNEIDER B**  
 U. OF TORONTO  
**SCHOLMERICH A**  
 U. OF OSENBROCK  
**SCHWARTZ T**  
 U. OF PITTSBURGH  
**SEBRIS S**  
 U. OF WASHINGTON  
**SEIFER R**  
 U. OF ILLINOIS, CHICAGO  
**SELF P**  
 U. OF OKLAHOMA  
**SEPKOSKI C**  
 CHILDREN'S HOSP., BOSTON  
**SHAFIE M**  
 U. OF OKLAHOMA  
**SHANNON D**  
 MASS. GENERAL HOSP., BOSTON  
**SHAPIRO B**  
 EMORY U.  
**SHAUL P**  
 WOMEN & INFANTS HOSP. OF RHODE ISLAND  
**SHERMAN T**  
 NAT'L INST. OF MENTAL HEALTH  
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**SHIGAKI I**  
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 HEBREW U. OF JERUSALEM  
**SHONK S**  
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 MIAMI U.  
**SHORT B**  
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**SHORT K**  
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**SIEBER W**  
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**SIEGEL L**  
 ONTARIO INST. FOR STUDIES IN ED., TORONTO  
**SIGMAN M**  
 U. OF CALIF., LOS ANGELES  
**SIMONS C**  
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**SIMPSON S**  
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**SINGER L**  
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**SIRETEANU R**  
 MAX PLANCK INST., FRANKFURT  
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**SLATER A**  
 U. OF EXETER, ENGLAND  
**SMITH C**  
 U. OF ILLINOIS, CHICAGO  
**SMITH C B**  
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 SUNY, STONYBROOK  
**STEVENSON M**  
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**STIFFER C**  
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**STILES-DAVIS J**  
 U. OF CALIF., SAN DIEGO  
**STRAUSS M**  
 U. OF PITTSBURGH

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Time	MONACO ROOM	VERSAILLES BALLROOM I	FRIDAY VERSAILLES BALLROOM II	ROYAL SUITE	INTERNATIONAL BALLROOM
8:30	<b>Project Report:</b> Event related potentials and infant visual processing	<b>Project Report:</b> The transition from attachment to autonomy concerns in early development	<b>Symposium:</b> Infants at risk for schizophrénia	<b>Symposium:</b> Newborn attention to auditory and visual stimuli	<b>Poster Session:</b> 9:00-11:00
10:00	<b>Symposium:</b> Variability and infant behavior	<b>Symposium:</b> The process of mother-infant separation: Focusing on the mother	<b>Symposium:</b> Stress and infancy	<b>Conversation Hour:</b> Newborn infant stress	<b>Poster Session:</b> 1:30-3:30
12:00	<b>Conversation Hour:</b> The development of interpersonal understanding	<b>Conversation Hour:</b> Temperament and caregiving	<b>Conversation Hour:</b> Newborn infant stress	<b>Conversation Hour:</b> From basic to applied research	
1:00					
2:00	<b>Symposium:</b> Ontogenetic timing: A systems approach	<b>Research Workshop:</b> Parental perception of emotion	<b>Invited Speaker:</b> Judy Dunn: Jokes and disputes; siblings and mothers in the development of social understanding		
3:00					
4:00	<b>Invited Speaker:</b> Carl Corrao: Rebuilding brain circuits after injury: Developmental aspects	<b>Invited Speaker:</b> Joseph Campos: Contemporary issues in the study of infant emotions	<b>Symposium:</b> The NBAS as an intervention device	<b>Symposium:</b> New directions in attachment research	
4:30					
5:00					
5:30					
7:00					
10:00					

DINNER — GEORGE C. PAGE MUSEUM

MONACO ROOM		VERSAILLES BALLROOM I		SATURDAY VERSAILLES BALLROOM II		ROYAL SUITE		INTERNATIONAL BALLROOM
8:00	Symposium: Early numerical cognition	Symposium: Antecedents and consequences of early mastery	Clinical Workshop: Visual assessment	Symposium: Processes and outcomes of early intervention with high-risk infants	Symposium: Developmental psychopathology		Poster session: 8:00-11:00	
9:30	Oral Presentations: Nutritional disorders	Symposium: Biological and social aspects of infant cry						
11:30			Invited Speaker: George Miller: Infant morality GRAND BALLROOM					
12:00	Conversation Hour: Environmental effects during the perinatal period	Conversation Hour: Models of early environmental action	Conversation Hour: Socialization of emotion	Conversation Hour: Clinical responsibilities of the infant researcher		Conversation Hour: Developing social skills in the young mentally retarded child		
1:00	LUNCH							
2:00	Symposium: The development of peripheral vision	Oral Presentations: Characteristics and effects of maternal speech	Symposium: Issues in research and clinical applications of repeated NBAS tests	Symposium: Mastery motivation and optimally challenging tasks			Poster Session: 1:30-3:30	
4:00	Invited Speaker: Emily E. Werner: An infant's view of the planet Earth GRAND BALLROOM							
5:00	SOCIAL HOURS GRAND BALLROOM							
7:00								

- MURPHY W**  
**MURRAY T** U. OF CALIF., SAN DIEGO ..... 24  
**MUSICK J** U. OF CALIF., SAN DIEGO ..... 20  
**MYERS B** VIRGINIA COMMONWEALTH U. .... 13
- NAUGHTON P** LUKE'S MED. CTR., CHICAGO ..... 16  
**NELSON D** SWARTHMORE COLLEGE ..... 21  
**NELSON M** LUKE'S MED. CTR., CHICAGO ..... 16  
**NEW R** SYRACUSE U. .... 24  
**NOBLE C** U. OF OKLAHOMA ..... 10  
**NOE M** U. OF LOUISVILLE ..... 20  
**NUGENT J** CHILDREN'S HOSP., BOSTON ..... 13  
**NURCOMBE B** BROWN U. .... 13
- O'BRIEN M** U. OF KANSAS ..... 21  
**O'CONNELL B** SALK INST., LAJOLLA ..... 2  
**O'CONNOR G** U. OF NEW SOUTH WALES, AUSTRALIA ..... 8  
**O'CONNOR M** U. OF CALIF., LOS ANGELES ..... 11, 20  
**O'CONNOR S** VANDERBILT U. .... 15  
**O'DONNELL K** U. OF N. CAROLINA, CHAPEL HILL ..... 16, 25  
**O'GRADY K** U. OF MARYLAND, COLLEGE PARK ..... 5  
**OAKES L** U. OF TEXAS, AUSTIN ..... 2  
**OGAN T** VANDERBILT U. .... 3  
**OH W** BROWN U. .... 5  
**OH R P** ST. JOHN'S U. .... 2  
**OLDANI D** U. OF VIRGINIA ..... 8  
**OLSON S** U. OF MAINE ..... 2  
**OLYMBIOS P** U. OF NEW SOUTH WALES, AUSTRALIA ..... 10  
**OPPENHEIM D** U. OF HAIFA, ISRAEL ..... 26  
**ORMAN S** NICH. MADISON & BETHESDA ..... 16  
**OSOFSKY H** MENNINGER FOUNDATION, TOPEKA ..... 15  
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**OVRTUT M** BOSTON COLLEGE ..... 16
- PALTI Z** HADASSAH HOSP., JERUSALEM ..... 4  
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**PANNETON R** U. OF ROCHESTER ..... 8  
**PAPUSEK M** MAX PLANCK INST., MUNICH ..... 7, 18, 21  
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**PAPARKE R** U. OF ILLINOIS, CHAMPAIGNE-URBANA ..... 3  
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**PECK H** BROOKLYN COLLEGE OF CUNY ..... 11  
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**PERLMAN N** U. OF TORONTO ..... 16  
**PERRIS E** U. OF MASS., AMHERST ..... 8  
**PETERSON M** HARVARD U. .... 3  
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**PIPP S** LEHIGH U. .... 14  
**PITZER M** OHIO STATE U. .... 9  
**PLIMPTON T** BAY STATE MED. CTR., SPRINGFIELD ..... 7  
**PLOMIN R** U. OF COLORADO, BOULDER ..... 9  
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**SUNDAY**

	<b>MONACO ROOM</b>	<b>VERSAILLES BALLROOM I</b>	<b>VERSAILLES BALLROOM II</b>	<b>INTERNATIONAL BALLROOM</b>
8:30	Symposium: Mechanisms underlying infant cross-modal functioning	Invited Workshop: Practical strategies in analyzing multivariate longitudinal data	Symposium: Defining and alleviating the stresses of newborn intensive care	Poster session: 9:00-11:00
10:00	Symposium: Habituation, familiarity and novelty preference	Invited Symposium: Federal support of research on infant behavior and development	Symposium: Tracking and follow-up of infants identified as high-risk	
12:00	BUSINESS MEETING			

11	MT. ST. MARY'S COLLEGE	KRAKOW J
3	U. OF VIRGINIA	KRAMER S
25	SUNY, BROOKLYN	KRAVATH R
11	MAX PLANCK INST., BERLIN	KREPPNER K
10	LOYOLA U. OF CHICAGO	KROMELOW S
25	CLARK U.	KRUPPER J
10	SOUTHERN METHODIST U.	KUCZAJ S
10	CUNY	KYRATZIS A
25	U. OF UTAH	LAMB M
2, 24	NICHD	LANDE J
11	U. OF TEXAS MED. SCHOOL, HOUSTON	LANDRY S
4	U. OF CALIF., BERKELEY	LANGER J
14	CTB/MCGRAW HILL	LANGHORST B
3, 7	U. OF TEXAS, AUSTIN	LANGLOIS J
10	U. OF ILLINOIS	LARSON S
19	U. OF TEXAS, DALLAS	LASKY R
8	SUNY, BROOKLYN	LAUNGANI S
25	ALBERT EINSTEIN COLLEGE OF MED.	LAWSON K
18, 19	U. OF WISCONSIN, MADISON	LEAVITT L
18, 24	WILHELMINA CHILDREN'S HOSP., UTRECHT	LECHNER-VAN DE NOORT M
18, 26	U. OF UTRECHT, NL	LEENDERS F
18, 26	U. OF QUEENSLAND, ST. LUCIA	LEES-SHEPARD D
24	U. OF ILLINOIS, CHICAGO	LEFEVER G
14	U. OF MONTREAL, WESTMOUNT	LEGERSTEE M
3	U. OF MINNESOTA	LEHR C
10	CHILDREN'S HOSP MED. CTR, AKRON	LEIB S
11	U. OF OREGON	LEINBACH M
7	BROOKLYN COLLEGE OF CUNY	LEMERISE E
11	SIMON FRASER U., B.C.	LEMKE K
19	RUTGERS U.	LENNON E
7	U. OF CALIF., IRVINE	LEON M
16	MED. RES. COUNCIL, LONDON	LESLIE A
2	NIAGARA U.	LESSWING E
3	BROWN U. & BRADLEY HOSP.	LESTER B
9, 17	NATL. INST. OF MENTAL HEALTH	LEVIN V
17, 23	HARVARD U.	LEVINE R
21	DRG, NATL. INST. OF HEALTH	LEVITIN T
23	U. OF KANSAS MED. CTR., KANSAS CITY	LEVY J
20	RUTGERS U.	LEWIS M
17, 18	MCMASTER U.	LEWIS T
5, 21	EVANSTON HOSP., ILLINOIS	LEWKOWICZ D
23	WEST VIRGINIA U.	LIECHTY E
4	U. OF LUND, SWEDEN	LINDBERG T
4	WESTBROOK COLLEGE	LOGUE M
16	U. OF WATERLOO	LOLLIS S
26	U. OF TEXAS MED. SCHOOL, HOUSTON	LOVELAND K
8	CASE WESTERN RESERVE U.	LOZOFF B
17	U. OF CALIF., LOS ANGELES	LUDINGTON S
15	MICHIGAN STATE U.	LUSTER T
19	SIMON FRASER U., B.C.	MACKINNON J
15	U. OF DENVER	MACHEE D
15	NICHD	MACTURK R
14, 22	U. OF WASHINGTON	MAGYAR D
27	U. OF UTAH	MALKIN C
17	CASE WESTERN RESERVE U.	MALONE C
17	U. OF MINNESOTA	MANGELSDORF S
10	YESHIVA U.	MANN M

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HUMPHRY R	U. OF N. CAROLINA, CHAPEL HILL	9
HUNTER M	U. OF VICTORIA, CANADA	23
HUNTINGTON L	NORTHWESTERN U.	19
HUSTON A	U. OF KANSAS	7
JACO K	U. OF OREGON	15
JAFFEE J	COLUMBIA U.	25
JANOWSKY J	U. OF CALIF., SAN DIEGO	11
JASNOW M	U. OF MARYLAND	25
JEFFERS D	HOSPITAL FOR SICK CHILDREN, TORONTO	15
JEFFREY W	U. OF CALIF., LOS ANGELES	1
JENKINS V	U. OF TEXAS, AUSTIN	10
JIMENEZ E	HOSPITAL NACIONAL DE NINOS, COSTA RICA	17
JOBSON S	MCMASTER U.	21
JOHNSON M	HARVARD U.	15
JONES L	U. OF MARYLAND, SILVERSPRING	10
JONES N	U. OF CALIF., LOS ANGELES	26
JUSCZYK P	U. OF OREGON	21
KAGAN J	HARVARD U.	3
KALINOWSKI M	U. OF NEW HAMPSHIRE	15
KANG R	U. OF WASHINGTON	21
KAPLAN P	U. OF COLORADO, BOULDER	11, 23
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KARMEL B	MOUNT SINAI MED. CTR., N.Y.	4, 13, 19
KARNS J	PURDUE U.	16
KARRER R	U. OF ILLINOIS, CHICAGO	6
KASARI C	U. OF CALIF., LOS ANGELES	26
KATONA F	PEDIATR. INST. SZABADSAGNEGY, HUNGARY	4
KATZ K	GEORGETOWN U.	9
KAUFMANN F	U. OF BERNE, SWITZERLAND	3
KAUFMANN-HAYOZ R	U. OF BERNE, SWITZERLAND	3
KAWAI M	NAGOYA U.	16
KEE D	CALIF. STATE U., FULLERTON	16
KEENER M	STANFORD U. SCHOOL OF MED.	20
KELLER H	UNIVERSITAT OSNABRUCK	10
KELLMAN P	SWARTHMORE COLLEGE	3
KELLY D	MASS. GENERAL HOSP., BOSTON	17
KENNEL J	CASE WESTERN RESERVE U.	26
KENNY P	COLUMBIA U.	12
KERMOIAN R	U. OF COLORADO HEALTH SCI. CTR., DENVER	10
KESSLER D	CORNELL U. MED. COLLEGE	4, 20
KHAN M	U. OF MARYLAND, BALTIMORE	24
KISILEVSKY B	QUEENS U.	8
KLAUS M	MICHIGAN STATE U.	26
KLEIN A	U. OF CALIF., BERKELEY & SANTA BARBARA	14
KLEIN N	CLEVELAND STATE U.	17
KLEINER K	CASE WESTERN RESERVE U.	8
KLINNERT M	NAT'L JEWISH CTR. FOR IMMUN. & RESP. MED.	3
KLOCK B	SWARTHMORE COLLEGE	2
KOCH E	U. OF VIRGINIA	8
KOCHANEVITCH-WALLACE P	CORNELL U.	15
KOESTER L	MAX PLANCK INST., MUNICH	25
KONIAK D	U. OF CALIF., LOS ANGELES	15
KONTOS D	TORONTO, CANADA	26
KOPP C	U. OF CALIF., LOS ANGELES	11, 18
KOREN N	U. OF HAIFA, ISRAEL	12
KORNER A	STANFORD U.	13

## Thursday, April 10

### Invited Address Monaco Room 12:00 - 12:50 P.M.

**The links between vision and touch in the first year of life.** Peter Bryant.

Introduced by: Wendell Jeffrey

### Symposium Monaco Room 1:00 - 2:50 P.M.

**Infant timing.** Curtis A. Samuels (Chair).

The timing of spontaneous movements: Fetal-newborn continuities and newborn state differences. Steven Robertson.

Infant's time-locked and anticipatory responding to temporally predictable events. W. Keith Berg.

Infant timing: Anticipation of proximal events and the filled duration effect. Curtis A. Samuels.

Discussion Leader: Daniel Stern

### Symposium Versailles Ballroom 1 12:00 - 1:50 P.M.

**What goes on inside parents' heads?** J. Lawrence Aber & Arietta Slade (Chairs).

Attachment: The parental perspective. Inge Bretherton & Doreen Ridgeway.

Parental attributions about child behaviors: Age-related changes during the transition years. Cathryn L. Booth, Keith A. Crnic, Sandra K. Mitchell & Susan Templeton.

The internal experience of parenting toddlers: Toward an analysis of individual and developmental differences. Arietta Slade & J. Lawrence Aber.

### Oral Presentations Versailles Ballroom 2 12:00 - 1:50 P.M.

#### COMMUNICATION, PLAY, AND LANGUAGE

**Symbolic gesturing in normal infants: A longitudinal study of sixteen infants.**

Linda P. Acredolo & Susan W. Goodwyn.  
12:00 - 12:30 P.M.

**Infant communicational acts and patterns of exploration and play.** Hans-Georg

Voss.  
12:30 - 1:00 P.M.

**Constraints on word learning: The role of the concept of object.** Nancy N. Soja &

Susan Carey.  
1:00 - 1:30 P.M.

Discussion Leader: Elizabeth Bates

### Oral Presentations Royal Suite 12:00 - 4:00 P.M.

#### GENDER DEVELOPMENT

12:00 - 12:45 P.M.

**The construction of gender during the child's first two years.** Beverly I. Fagot.

12:00 - 12:30 P.M.

Discussion Leader: Sarah Sternglanz

EARLY ABILITIES 12:50 - 2:40 P.M.

**Hand to mouth activity in the newborn baby: Evidence for innate intentionality?**  
George Buterworth.  
12:50 - 1:20 P.M.

**The extraction of structure from motion: Implementation of basic processing constraints.** Bennett I. Bertenthal & Dennis R. Proffitt.  
1:20 - 1:50 P.M.

**Development of the infant's encoding of causal events.** Alan Leslie.  
1:50 - 2:20 P.M.

MOTHER-CHILD INTERACTION  
Discussion Leader: Leslie Cohen  
2:45 - 4:00 P.M.

**Maternal, infant and social contextual determinants of attachment security.** Jay Belsky.  
2:45 - 3:15 P.M.

**Predicting social and cognitive competence at age 6 from early mother-child interaction.** Sheryl L. Olson, Kathryn Bayles, & John E. Bates.  
3:15 - 3:45 P.M.

Discussion Leader: Michael E. Lamb

**Poster Session International Ballroom 1:30 - 3:30 P.M.**

**PLAY AND PREVERBAL COMMUNICATION**  
A1. The role of imitation in vocabulary acquisition. Susan Broome & Ina C. Uzgiris.  
A2. On preverbal requests. Esther Goldminz.  
A3. Changes in the behavioral features of pointing during the first year. Thomas E. Hannan.  
A4. Gestures with objects: Sensorimotor schemes or symbols? Kimberly Whitesell, Lisa Oakes, Barbara O'Connell, & Elizabeth Bates.  
A5. Effect of individual patterns of interest on transformational play of young children. K. Ann Renninger & Barbara L. Klock.  
A6. Two-year olds' imitation of modeled play sequences: A cognitive-affective analysis. Lynn Rothstein.  
A7. Infant's exploration and play: Properties of transitions. Axel Scholmerich.  
A8. Stylistic differences in language and symbolic play: A longitudinal examination. Patricia J. Bauer & Cecilia M. Shore.

**CONCEPTS AND LEARNING**  
A9. Toddlers' recall of arbitrary, causal and conventional action sequence. Patricia J. Bauer & Cecilia M. Shore.  
A10. Infants' understanding of numerical transformations. Catherine Sophian.  
A11. Learning and memory from three to eleven months: A longitudinal study. Jeffrey W. Fagen & Phyllis S. Ohr.  
A12. Memory retrieval in infancy as a function of amount of training. Phyllis S. Ohr, Jeffrey W. Fagen, & Carolyn Royce-Collier.  
A13. Role of perceptual and conceptual similarity in category matching. Larry Fenson, Ariene Young & William Sieber.

GORSKI P

GOTTLIEB S

GOTTFRIED A

GOTTFRIED A E

GOTTLIEB L

GRANRUD C

GREEN J

GREENE L

GROLNICK W

GUBERMAN S

GUNN D

GUNN P

GUNNAR M

GUSELLA J

GUSTAFSON G

GWIAZDA J

HADJISTAVROPOULOS T

HAINLINE L

HAITH M

HALPERSON J

HANEY M

HANNAN T

HANS S

HANSEN R

HARDING C

HARKINS D

HARMON R

HARRIS K

HARSMAN I

HARTMANN A

HASLIP J

HAUENSTEIN E

HEALT B

HEINICKE C

HELD R

HERMAN C

HERMANS J

HERNANDEZ J

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HIGLEY J

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HRONSKY S

DEPT. PEDS., NORTHWESTERN U. MED. SCHOOL

U. OF ALABAMA, BIRMINGHAM

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CALIF. STATE U., NORTHRIDGE

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CARNEGIE-MELLON U., PITTSBURGH

U. OF ILLINOIS, URBANA-CHAMPAINE

U. OF ROCHESTER

U. OF ROCHESTER

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U. OF QUEENSLAND, BRISBANE

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MASS. INST. OF TECHNOLOGY

MCGILL U.

BROOKLYN COLLEGE OF CUNY

U. OF DENVER

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AUBURN U.

HANS S

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CHILDREN'S HOSP., BOSTON

LOYOLA U. OF CHICAGO

CLARK U.

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MCMASTER U.

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 U. OF UTAH ..... 7  
 OUNCE OF PREVENTION FUND, CHICAGO ..... 20  
 FLORIDA INTERNATIONAL U. .... 5, 12  
 HARVARD MED. SCHOOL ..... 7  
 HARVARD U. .... 15  
 U. OF FLORIDA ..... 19  
 SUNY, BROOKLYN ..... 25  
 GEORGETOWN U. .... 19  
 U. OF NEW HAMPSHIRE ..... 2  
 U. OF OREGON ..... 15  
 U. OF DELAWARE ..... 10  
 PEDIATR. DIAGNOSTIC SERVICE, CAMBRIDGE ..... 17  
 EMORY U. .... 6  
 U. OF CALIF., DAVIS ..... 1  
 U. OF DELAWARE ..... 10  
 TECHNISCHE U., BERLIN ..... 25

**Thursday, April 10**

- A14. The effects of auditory reception of numerical information on infants' looking behavior: An extension. David Moore, Joyce Benenson, J. Steven Reznick, Michele Peterson & Jerome Kagan.
- A15. Young infants' representation of the properties of hidden objects. Renee Baillargeon.
- A16. The visual perception of number invariance in infants. Erik Van Loosbroek & Ad W. Smitsman.
- A17. Auditory perception of numerosity by infants. Prentice Starkey.
- A18. Reaching in the dark: Object permanence in 5-month-olds. Bruce Hood & Peter Willatts.

**DISCRIMINATION OF MOVEMENT AND MOTOR RESPONSES**

- A19. Learning to do two things at once: Development of bimanual skills in young infants. Peter Willatts.
- A20. The role of self-produced locomotion in spatial behavior. Joseph J. Campos, Janette B. Benson & Leslie A. Rudy.
- A21. Leg strength and newborn stepping. Donna F. Thompson, Amy Beth Davis & Elizabeth A. Lesswing.
- A22. Recognition of moving dot paths in infancy. Ruth Kaufmann-Hayoz, Franz Kaufmann & Markus Stucki.
- A23. Perception of kinetic subjective contours in infancy. Franz Kaufmann, Ruth Kaufmann-Hayoz & Markus Stucki.
- A24. Reaching and random movements in young infants. Maria Legerstee.
- A25. The more things change, the more they stay the same: Infant perception of three-dimensional form from information given by observer movement. Philip J. Kellman & Kenneth R. Short.
- A26. Infant detection of moving surfaces in random-dot kinematograms. Steven J. Kramer.
- A27. Perception of the temporal pattern of motion in infancy. Morton J. Mendelson.
- A28. Age-related changes in reaching behavior. Barbara A. Morrongiello & Patrick T. Rocca.
- A29. Mouthing as active exploration. Holly A. Ruff & Karen Dubiner.
- A30. Perception of gravity by 4, 8 and 12-month-old infants. Beth Shapiro & Marion Eppler.
- A31. Development of reaching in the dark toward luminous objects and invisible sounds. Dale M. Stack, Darwin W. Muir & Francis Sherriff.
- A32. Discrepancy processing of actions in infancy. James D. Demetre & Peter M. Vietze.
- SOCIAL REFERENCING**
- A33. The effects of maternal positive, negative and neutral affective displays on infant reactions to novel toys. Robin Hornik & Nancy Risenhoover.
- A34. Social referencing, attachment, and exploration. Tedra Walden & Tamra Ogan.
- A35. Social referencing in infancy: A glance at fathers and marriage. Susan Dickstein & Ross Parke.
- A36. The effect of social referencing on 12-month-olds' responses to a stranger's attempts to "make friends." Saul Feinman & Debra Roberts.
- A37. Emotional expressions as determinants of infants' immediate and delayed responses to prohibitions. Donna L. Bradshaw, Joseph J. Campos & Mary D. Klinnert.
- A38. Contextual determinants of affect referencing. Beth Hoover Langhorst.

ENVIRONMENTAL FACTORS AND HIGH - RISK INFANTS

- A39. Parents' knowledge about medical complications and fears for their high risk infants. C.J.R. Simons & Susan K. Ritchie.
- A40. Delivery method, education level, and parents' ability to identify infant medical complications. Susan K. Ritchie, C.J.R. Simons, Martha D. Mullett & Edward A. Liechty.
- A41. Maternal stimulation of pretermatures and fullterms. Diane Holditch Davis & Evelyn B. Thoman.
- A42. Perinatal risk, attachment, and the family context. M. Ann Easterbrooks & Robert J. Harmon.
- A43. Long term hospitalization of failure to thrive infants: Patient characteristics and developmental outcome at three years. Lynn Singer.
- A44. Effect of nursery environment on state regulation of V.L.B.W./pretermature newborns. Barbara Fajardo, Margaret M. Browning & David Fisher.
- A45. Mother's memories of the Brazelton neonatal behavioral assessment scale: Implications for intervention. Mary J. Ward, Susan W. Plunket & Daniel B. Kessler.
- A46. Visual attention skills of very low birthweight infants: Effects of maternal stimulation. Susan H. Landry.
- A47. Multivariate analysis of the effects of early vs. late onset of habilitation in brain-injured neonates. Bernard Z. Karmel, Judith M. Gardner, Ferenc Katona & Marianne Berenyi.
- A48. Prematurity stereotyping by mothers of premature infants. Marilyn Stern & Katherine Hildebrandt-Karraker.
- A49. Nurses' interaction with preterm infants. Regina M. Cusson.
- A50. Sources of stress in the NICU environment for parents. Margaret Shandor Miles.
- A51. Infants with medical problems and breast feeding. Gunnel Eliander, Tor Lindberg, & Betty Jean Pannabecker.
- A52. Local anesthesia for routine NICU procedures. Fran Porter & Richard Marshall.
- A53. The effects of delivery mode and type of anesthetic on perception of the birth experience. Judith Auerbach, Sarale Cohen, & Zvi Palti.

25	U. OF WISCONSIN MED. SCH., MADISON	CLARK R
9, 11	U. MASS., AMHERST	CLIFTON R
11	U. OF TORONTO	COHEN A
2	U. OF TEXAS, AUSTIN	COHEN L
8	U. OF CALIFORNIA, L.A.	COHEN S
4, 26	CHARLOTTESVILLE, VIRGINIA	COLIN V
16	BROWN U.	COLL C
5, 18	U. OF KANSAS	COLOMBO J
19, 20	U. OF ROCHESTER	CONNELL J
12, 15	COLEGIO DE MEXICO	CORREA C
21	BOSTON U.	CORWIN M
17	U. OF CALIFORNIA, IRVINE	COTMAN C
12	U. OF MIAMI	CRITTENDEN P
20	U. OF WASHINGTON	CRNIC K
1, 25	U. OF CALIF., DAVIS	CROCKENBERG S
7, 9	U. OF MICHIGAN	CROSS D
18	U. OF MARYLAND	CROWN C
25	MENNINGER FOUNDATION, TOPEKA	CULP A
17, 20	U. OF KANSAS MED. CTR., KANSAS CITY	CULP R
15, 20	WEST VIRGINIA U.	CUMMINGS E
16, 26	CHILDREN'S HOSP., BOSTON	CUMMINGS M
21	U. OF MARYLAND, BALTIMORE	CUSSON R
4, 19	WEST VIRGINIA U.	DANIEL D
26	U. OF WISCONSIN, MADISON	DANNEMILLER J
5, 11	NIAGARA U.	DAVIS A
3	SIMON FRASER U.	DAVIS C
19	U. OF N. CAROLINA, CHAPEL HILL	DAVIS D
4	DALHOUSIE U., CANADA	DAVIS S
6	WESTERN PSYCHIATRIC INST., PITTSBURGH	DAY N
20	BROOKLYN COLLEGE OF CUNY	DE BIE J
11	CNRS, PARIS	DE BOYSSON-BARDIES B
6	U. OF UTRICHT, NL	DE BRUIJN A
18, 26	U. OF MONTREAL	DECARIE T
10	U. OF N. CAROLINA, GREENSBORO	DECASPER A
8	NORTHWESTERN U. MED. SCHOOL	DEDDISH R
18	NICHOLSON & BETHESDA	DELIZIO R
11, 16	HOBART & WM. SMITH COLLEGES	DEMIS D
16	HATFIELD POLYTECHNIC, ENGLAND & NICHOLSON	DEMETRE J
3, 22	MC GILL U.	DEREVENSKY J
15	U. OF ILLINOIS	DICKSTEIN S
3	SINAL HOSPITAL OF BALTIMORE	DIENSTAG E
25	U. OF MARYLAND	DIPIETRO J
19	U. OF PITTSBURGH	DOBSON V
11, 21	U. OF WISCONSIN, MADISON	DONOVAN W
24	BABIES CENTER METRA, GREECE	DRIVAS A
7, 17	CASE WESTERN RESERVE U.	DROTAR D
17	YESHIVA U.	DUBINER K
3	SUNY COLLEGE OF OPTOMETRY	DUCKMAN R
8	CAMBRIDGE U.	DUNN J
6, 12	U. OF VIRGINIA	DUNN S
11	U. OF MANITOBA	DURESKI C
15	U. OF NEW SOUTH WALES, AUSTRALIA	EARNSHAW L
8, 10	TUFTS U.	EASTERBROOKS M
4, 7	U. OF MANITOBA	EATON W
15, 20		

BLACKMAN J	U. OF IOWA	24
BLOOM A	U. OF LOUISVILLE SCHOOL OF MED.	18, 19
BLOOM K	DALHOUSIE U., CANADA	6
BOGOMOLNY A	CASE WESTERN RESERVE U.	26
BOOTH C	U. OF WASHINGTON	1, 24
BOOTHE R	EMORY U.	5
BORNSTEIN M	NEW YORK U.	19
BOUKYDIS C	BROWN U.	17
BOURG T	U. OF HOUSTON	20
BOWMAN T	SURREY PLAY CENTRE, TORONTO	8
BOZYNSKI M	U. OF MICHIGAN MED. CTR.	16
BRADFIELD A	PENN. COLLEGE OF OPTOMETRY	14
BRADSHAW D	U. OF DENVER	3
BRAM S	NEW YORK HOSP., CORNELL MED. CTR.	20
BRANN B	U. OF NEW MEXICO SCH. OF MED.	18
BRAZELTON T	CHILDREN'S HOSP., BOSTON	13, 21
BRENT H	MCMASTER U.	5
BRETHERTON I	COLORADO STATE U.	1, 9, 26
BREZNITZ Z	HAIFA U., ISRAEL & NIMH	19, 25
BRIDGES L	U. OF ROCHESTER	14, 24
BRILL N	U. OF CALIF., LOS ANGELES	20
BRONSON W	U. OF CALIF., BERKELEY	12
BRONSTEIN R	CSP, San Diego	7
BROOKS P	VANDERBILT U.	15
BROOME S	CLARK U.	2
BROWN E	MOUNT-SINAI MED. CTR., N.Y.	19
BROWNING M	MICHAEL REESE HOSP., CHICAGO	4
BRYANT D	U. OF N. CAROLINA, CHAPEL HILL	11
BRYANT P	OXFORD U.	1
BUCHSBAUM H	U. OF COLORADO, DENVER	7
BURCHINAL M	U. OF N. CAROLINA, CHAPEL HILL	11
BURNHAM D	U. OF NEW SOUTH WALES, AUSTRALIA	8, 10
BURNS K	NORTHWESTERN U. MED. SCHOOL	10, 18, 20
BURNS W	NORTHWESTERN U. MED. SCHOOL	18, 20
BUSHNELL E	TUFTS U.	11
BUTTERFIELD P	U. OF COLORADO HEALTH SCI. CTR., DENVER	12
BUTTERWORTH G	U. STIRLING, SCOTLAND	2
BYRNE J	I. W. KILLAM HOSP. FOR CHILDREN	9, 19
CAIN R	NATIONAL INST. OF HEALTH	11
CALDERA Y	U. OF KANSAS	7
CAMAIONI L	U. OF ROME, ITALY	6, 7
CAMENZULI C	BROOKLYN COLLEGE OF CUNY	11
CAMPOS J	U. OF DENVER	3, 13
CANFIELD R	U. OF DENVER	11
CAREY S	MASS. INST. OF TECHNOLOGY	1
CARFANTAN M	SIMON FRASER U., B.C.	19
CARLSON V	WASHINGTON U., ST. LOUIS	8
CARON A	GEORGE WASHINGTON U.	7, 10
CARON R	GEORGE WASHINGTON U.	7
CASEY R	U. OF TEXAS, AUSTIN	10
CATS B	WILHELMINA CHILDREN'S HOSP., UTRECHT, NL	18, 26
CENSULLO M	MASS. GENERAL HOSP., BOSTON	24
CHAPIESKI L	U. OF TEXAS MED. SCH., HOUSTON	25
CHAPMAN R	U. OF WISCONSIN, MADISON	18
CHASNOFF I	NORTHWESTERN U. MED. SCHOOL	20
CHEN D	U. OF CALIF., BERKELEY	6
CHIPPERFIELD J	U. OF MANITOBA	15, 20
CICCHETTI D	U. OF ROCHESTER	14, 17, 18

Thursday, April 10

**Symposium** **Monaco Room** **3:00 - 5:00 P.M.**

**Usefulness of animal models for understanding visual development.** Daphne Maurer (Chair).

The use of descriptive experiments with animals as a means of studying mechanisms underlying human infant development. Ronald G. Boothe.

Kittens' early visual development: Comparison to human infants. Ruxandra Sireteanu.

Optokinetic nystagmus in normal infants and binocularly deprived children: Comparison to animal studies. T. Lewis, D. Maurer, J. Haslip, R. Smith & H. Brent.

Asynchronous maturation of visual system structures: Lessons from color blindness. James L. Dannemiller.

**Symposium** **Versailles Ballroom 1** **2:00 - 4:00 P.M.**

**Cultural and developmental aspects of interaction patterns in adolescents and their infants.** Cynthia Garcia Coll (Chair).

Interactions between adolescent mothers and their newborns in Puerto Rico. Cynthia Garcia Coll, Carmen Peralta, Marta Valcarcel & William Oh.

Autonomy and compliance: Maternal techniques in adolescent and non-adolescent mothers. Jackie Moore.

Adolescent mothers and their infants: A theoretical integration of the issues. Joy D. Osofsky.

Early interactions between adolescents and their infants as predictors of 2 year development. Julie A. Hofheimer & Kevin E. O'Grady.

**Symposium** **Versailles Ballroom 2** **2:00 - 4:00 P.M.**

**Individual differences in facial expression.** Nathan A. Fox (Chair).

Infant attractiveness and adult reponse. Deborah L. Holmes & Jill N. Reich.

EEG asymmetry and the expression of emotion. Nathan A. Fox.

Gender can be determined from the baby's face. Jacob L. Gewirtz & Joaquin P. Hernandez.

Individual differences in facial expressivity among singleton, monozygotic, and dizygotic twin newborns. Tiffany Field.

**Invited Address** **Grand Ballroom** **4:15 - 5:15 P.M.**

**The role of infant-caregiver attachment in development.** L. Alan Sroufe.

Introduced by: Arthur H. Parmelee

**SOCIAL HOURS** **Grand Ballroom** **5:15 - 7:00 P.M.**

1, 6	BARNARD COLLEGE OF COLUMBIA U.	ABRAMOV I
11	BROOKLYN COLLEGE OF CUNY	ABRAMOVITZ R
16	U. OF TORONTO	AACHENBACH T
13	U. OF VERMONT, BURLINGTON	ACKLES P
6	U. OF ILLINOIS, CHICAGO	ACREDELO L
1	U. OF CALIF., DAVIS	ADAMS R
11	MEMORIAL U. OF NEWFOUNDLAND	ADAMSON L
7, 18	GEORGIA STATE U.	ADAMSON L
23	U. OF CONN., FARMINGTON	AFLECK G
19	U. OF CONN., HEALTH CTR.	ALLEN D
19	SIMON FRASER U., B.C.	AMES E
20	BROWN U.	ANDERS T
13	NORTHWESTERN U.	ANDERSON C
10, 16, 19	U. OF FLORIDA	ANDERSON G
19	CHILDREN'S HOSP., NAT'L MED. CTR.	ANDERSON K
11	U. OF COLORADO, BOULDER	APOSHYAN H
11	U. OF MINNESOTA, MINNEAPOLIS	ARTERBERRY M
8	VANDERBILT U.	ASHMEAD D
15	CNR INST. OF PSYCHOLOGY, ROME, ITALY	ATTILI G
4, 6	HEBREW U., JERUSALEM	AUERBACH J
7	U. OF CHICAGO	AVIEZER O
11	U. OF VIRGINIA	BAI D
3	U. OF ILLINOIS	BAILLARGEON R
7	GEORGIA STATE U.	BAKEMAN R
6	COLUMBIA U.	BAKER A
11	U. OF CALIF., BERKELEY	BANKS M
16, 26	MICHAEL REESE HOSP., CHICAGO	BARGLOW P
17, 21, 24	U. OF WASHINGTON	BARNARD K
1, 2, 16	U. OF CALIF., SAN DIEGO	BATES E
2, 9, 15	INDIANA U., BLOOMINGTON	BATES J
16	CALIF STATE U., FULLERTON	BATHURST K
11	MASS. INST. OF TECHNOLOGY	BAUER J
2	U. OF CALIF., SAN DIEGO	BAUER P
2	INDIANA U., BLOOMINGTON	BAYLES K
20	MARTIN LUTHER KING HOSP., LOS ANGELES	BEAN X
19	U. OF WISCONSIN, MADISON	BECKER P
18	U. OF CALIF., LOS ANGELES	BECKWITH L
10, 25	YESHIVA U.	BEEBE B
8, 9	HARVARD U.	BEEGLY M
19	U. OF FLORIDA	BEHNKE M
12, 19	FRANKE U. OF BERLIN	BELLER E
2, 18	PENN. STATE U.	BELSKY J
9	U. OF MIAMI MED. CTR.	BENDELL D
3	HARVARD U.	BENENSON J
11	CHILDREN'S HOSP. MED. CTR., AKRON	BENFIELD D
24	CNR INST. OF PSYCHOLOGY, ROME, ITALY	BENIGNI L
3, 15	U. OF DENVER	BENSON J
4	PEDIATR. INST. SZABADSAGHEGY, HUNGARY	BERENYI M
1, 9	U. OF FLORIDA	BERG W
6	COLUMBIA U.	BERGER B
8	U. OF QUEENSLAND, BRISBANE	BERRY P
10	U. OF MARYLAND, BALTIMORE COUNTY	BERSOFF D
2, 11	U. OF VIRGINIA	BERTEHAL B
7	WESTLEYAN U.	BEST C
19	U. OF ALABAMA, BIRMINGHAM	BIASINI F
18	U. OF CALIF., RIVERSIDE	BLACHER J

**Project Report** Monaco Room 8:30 - 9:50 A.M.

Event-related potentials and infant visual information processing. Ralthe Karer, Patrick Ackles & Susan McDonough.

Event-related potentials, sequential processing, and brain organization of infants. Development of late event-related potentials (ERP) as measures of infant information processing. Infant visual fixation: A comparison of event-related potential (ERP) and habituation procedures.

**Project Report** Versailles Ballroom 1 8:30 - 9:50 A.M.

The transition from attachment to autonomy concerns in early development: The influence of stage-specific parenting competencies. J. Lawrence Aber, Amy J.L. Baker, Brenda Berger & Annelie Hartmann.

Attachment in toddlers: Theoretical and methodological issues. Maternal autonomy in separation: A new measure of mothers' negotiating ability during separation. Developmental dynamics of maternal recognition of toddler differentiation.

**Symposium** Versailles Ballroom 2 8:30 - 9:50 A.M.

Behavioral continuity from infancy to middle childhood in children at risk for schizophrenia. Judith G. Auerbach, Joseph Marcus & Sydney L. Hans. Locating sources of stability from infancy to later behavior. Ronald Seifer & Arnold J. Sameroff.

Effects of schizophrenic mothers on their birth to five-year-old children. Sheryl H. Goodman.

**Poster Session** International Ballroom 9:00 - 11:00 A.M.

**COMMUNICATIVE INTERACTIONS**

B1. Toddler's social pretend with older partners. Carolee Howes & JoAnn Farver.  
B2. Maternal behavior and infant pointing: A developmental assessment. Thomas E. Hannan.  
B3. Conversational turn taking: Verbal quality of adult affects vocal quality of infant. K. Bloom, A. Russell & S. Davis.  
B4. Parent-infant communication: Strategies and routines with sensory impaired and sensory intact infants. Deborah Chen.  
B5. A cross-cultural study of parental speech to infants. Anne Fernald, Judith Dunn, Mechthild Papousek, Benedicte de Boysson-Bardies, Lucia Carnaloni & Traute Taeschner.  
B6. A longitudinal study of memory talk in mother-child conversation. Judith A. Hudson.



**Sunday, April 13**

- F40. Interaction between mothers and very low birthweight children: The development of reciprocity in various interaction situations during the first 24 months. Marion Tanke, Frans Leenders, Agnes J.M. de Bruijn, Marja Lechner-van de Noort, Bernard P. Cats, Wim Wolters, & Jo Hermanns.
- F41. Caregiver interactions with autistic children. Connie Kasari, Peter Mundy, & Nurit Yirmiya.

**ATTACHMENT/RESPONSE TO SEPARATION**

- F42. Separation protest: A developmental follow-up. Sarale E. Cohen.
- F43. Night waking & separation anxiety. Liat Clayman & Nicholas Blurton Jones.
- F44. An organizational scheme for the classification of attachment on a secure/insecure/detached continuum. E. Mark Cummings, David B. Daniel, & Mona El-Sheikh.
- F45. Attachment at adoption. J. Kennell, O. Maratos, D. Kontos, M. Klaus & A. Bogomolny.
- F46. Effect of maternal behaviors on toddler separation behaviour. Susan Lollis.
- F47. The influence of attachment security and maternal scaffolding on toddler mastery motivation. Christine A. Maslin, Inge Bretherton & George Morgan.
- F48. The impact of maternal narcissism on the attachment behavior of two and three year old children. Nancy S. Molitor, Brian Vaughn & Peter Barglow.
- F49. Attachment and play: A follow-up study. Lori A. Roggman.
- F50. Maternal factors related to "AC" insecure attachment in the strange situation. Susan J. Spieker.
- F51. Patterns of attachment among Japanese infants in laboratory and at home. Keiko Takahashi & Kazuo Miyake.
- F52. Infant-adult security of attachment on Israeli Kibbutzim in the first year of life and its relation to social-emotional development four years later. David Oppenheim and Abraham Sagi.

**BUSINESS MEETING Grand Ballroom**

**12 - 1:00 P.M.**

**Friday, April 11**

- B7. Infants' instrumental social interaction with adults. Barbara Rogoff, Jayanthi Mistry, Barbara Radziszewska & Jamie Germond.
- B8. Interactional predictors of early language. C.B. Smith, L.B. Adamson & R. Bakeman.
- B9. Non-verbal communication between four-month-old infants and their mothers. Ora Aviezer.
- B10. Vocal matching in turns and in unison in dialogues between mothers and infants of presyllabic age and its significance for the development of speech. Mechthild Papousek.
- B11. Dyadic adjustments in parental speech to three-month-old infants: Age specificity and universality across sex of parent. Mechthild Papousek & Hanus Papousek.
- B12. Imitative interactions and communicative development. Luigia Camaioni.

**FACIAL DISCRIMINATION/EMOTIONAL EXPRESSION**

- B13. Intermodal perception of emotional expressions by infants. Danielle L. Spiegler & Rose F. Caron.
- B14. Infant discrimination of dynamic expressions of emotion. Albert J. Caron & Rose F. Caron.
- B15. Infants' discrimination of vocal expressions: Differentiation or recognition of meaning? Arlene S. Walker-Andrews & Elizabeth M. Lennon.
- B16. Infant smiling during social interaction: Arousal modulation or activation indicator? Richard Ewy.
- B17. Stimulus components which influence infants' discrimination of facial expressions. Richard Ewy & Curtis A. Samuels.
- B18. Infant and parent emotions: A longitudinal study. Robert N. Emde & M. Anne Easterbrooks.
- B19. Infant coping with interpersonal stress: Specificity, developmental changes and stability. A. Gianino, T. Plimpton & E.Z. Tronick.
- B20. Attachment and "joy in being the cause." Beth Hoover Langhorst.
- B21. Cerebral asymmetries for infants' facial emotions. Catherine T. Best.
- B22. Infant affective behavior, temperament and autonomic patterning. Cynthia A. Stifter.
- B23. Maternal anger and the behavior of two-year-old children. Susan Crockenberg.
- B24. Gender-Schematic processing by one-year-olds: Categorical habituation to male and female faces. Mary Driver Leinbach & Beverly I. Fagot.

**PARENT INFLUENCES**

- B25. The possible danger of excessive early maternal vocal stimulation on infant development. Kiki V. Roe, Arnold Roe, Antonia Drivas & Robin Bronstein.
- B26. Infant vocal response to mother and strangers as function of educational level. Kiki Roe & Robin Bronstein.
- B27. Home environment and cognitive ability and achievement. Adele Eskeles Gottfried, Allen W. Gottfried & Diana Guerin.
- B28. Parent-child interactions and empathy among 18- to 36-month-olds. Helen K. Buchsbaum.
- B29. Parental influence on sex-typed toy preference in toddlers. Yvonne Caldera & Aletha Huston.
- B30. Pre and Post-birth antecedents of three-year-old attention, capacity for relationships and verbal expressiveness. Christoph M. Heinicke.

- F16. Early parenting and daily hassles with children in families with infants and toddlers. Keith Crnic & Susan Templeton.
- F17. Frequency and duration of social contact during the first year: Basic pattern, age effects, and infant temperament differences. Saul Feinman & Debra Roberts.
- F18. Experimental manipulations of mother-infant interactions: Isolating the salient components. Joanne Gusella & Darwin Muir.
- F19. Assessment of maternal functioning. Karen J. O'Donnell, Patricia O'Brien Towle, & MaryAnne Mastranni.
- F20. Situational effects on mother-infant interaction. Ina C. Uzgris & Jan C. Kruper.
- F21. Early caregiving in a Mexican origin population. Marlene Zepeda.
- F22. Rhythms and repetitions in parent-infant interactions. Lynne Sanford Koester.
- F23. Interaction between caregiver-infant during feedings: An exploratory study performed in Sweden. Betty Jean Panabacker & Gunnel Elander.
- F24. Development as seen through paintings: On early concepts of the mother-child relationship. Diemar Gorlitz.
- F25. How general are adult models of dialogic timing? Joseph Jaffe.
- F26. The measurement of interpersonal influence in mother-infant play. Stanley Feldstein & Cynthia Crown.
- F27. Mutual influence of vocal time patterns in mother-infant interaction. Michael Jasnaw.
- F28. Mutual influence to match kinesthetic time patterns in mother-infant play. Beatrice Beebe & Kathleen Mays.
- F29. Variability and stability in infant behavior and maternal ratings. John Worobey.
- FAMILY FACTORS WITH HIGH-RISK AND DEVELOPMENTALLY DELAYED INFANTS**
- F30. The influence of the mother's sociability on her child's later interactional patterns in a high-risk population. Mandy B. Medvin.
- F31. Home based cognitive stimulation for at risk families by lay workers. Barbara Howard & Esther Dienstag.
- F32. Correlates of performance failure in at risk children. Elizabeth Hrnctir, Sandra Scarr, & Emily Hauenstein.
- F33. Speech patterning of natural discourse of well and depressed mothers and their young children. Tracy Sherman & Zvia Breznitz.
- F34. Linear and interactive effect of maternal depression and marital quality on reported behavior problems in three year olds. Karen Frankel.
- F35. Maternal affective disturbances and child competence. Roseanne Clark.
- F36. Mother-child interaction: Correlates of maltreatment. Catherine M. Malkin, Michael E. Lamb, & Theodore Gaensbauer.
- F37. Comparison of development and family background of "near-miss SIDS" and sibling SIDS infants in an infant apnea program. Joan H. Hittelman, Sheila Laungani, Lorraine Marino, Richard Kravath & Leonard Glass.
- F38. Effects of maternal attention directing strategies on preterms' response to toys. Susan H. Landry, M. Lynn Chapieski & Marcella Schmidt.
- F39. Mother-infant interaction in delayed and non-delayed premature children at two years of age. Alison Monds Ward, Betty Vohr & Badri Moghdam.

- B31. Interaction of maternal behaviors and infant developmental status: Methodological considerations. Hsiu-Zu Ho.
- DEVELOPMENT OF DOWN SYNDROME INFANTS**
- B32. Mirror exploration in Down Syndrome. Katherine A. Loveland.
- B33. Object permanence and expressive language skill in visually typical, visually atypical and Down Syndrome infants. Deborah Tullioch & Robert Duckman.
- B34. Early linguistic and non-linguistic representations of self and other by children with Down Syndrome. Marjorie Beeghly & Bedonna Weiss.
- B35. Child maltreatment and the self: Individual differences in toddlers' use of internal state language. Marjorie Beeghly & Vicki Carlson.
- B36. Analysis of item sequences in Bayley scales with young Down Syndrome children. Helligard Rauh, Georg Rudinger, Paul Berry, Pat Gunn & Thomas G. Bowman.
- AUDITORY DISCRIMINATION AND RESPONSIVENESS**
- B37. Infants' categorization of melodic contour. Mark B. Ferland.
- B38. Amplitude and phase spectra as indices of infants' pattern preferences. Kathleen A. Kleiner.
- B39. Accuracy of sound localization in 7-month-old human infants. Daniel H. Ashmead & Eve Ferris.
- B40. Reaching in the dark as a measure of auditory localization. Eve E. Ferris.
- B41. Does musical structure influence infant perception of within contour changes? Annabel J. Cohen.
- B42. Infants' memory for sets of frequencies. Annabel J. Cohen.
- B43. Habituation and dishabituation of the startle reflex to auditory stimulation as a function of intensity in newborn infants. Barbara Kisilevsky.
- B44. A method of determining auditory evoked brainstem response thresholds in human newborns. Robert E. Lasky & Edward Yang.
- B45. Infants' localization of sounds in the horizontal plane. Barbara A. Morrongiello & Patrick T. Rocca.
- B46. Infant frequency discrimination: Level and age effects. Lynne Werner Olish, Elizabeth G. Koch, & Christopher F. Halpin.
- B47. Newborns' postnatal preference for a prenatally experienced melody. Robin K. Panneton & Anthony J. DeCasper.
- B48. Prenatal experience with low-frequency maternal voice sounds influences newborns' perception of female voices. Melanie J. Spence & Anthony J. DeCasper.
- B49. Perceptual loss of a non-native speech contrast during language acquisition, not infancy. Denis K. Burnham, Genevieve O'Connor & Lynda J. Earnshaw.
- B50. The development of basic auditory abilities. Bruce A. Schneider.
- B51. Testing auditory sensitivity in young infants. Sandra E. Trehub & Bruce A. Schneider.
- B52. Perceptual constancy for melodic contour. Leigh A. Thorpe.
- B53. Infants categorize rising and falling pitch. Leigh A. Thorpe.
- B54. Phonetic discrimination and perceptual reorganization in human infants. Janet F. Werker.

Sunday, April 13

**Symposium** Versailles Ballroom 2 10:00-11:50 A.M.

**Tracking and follow-up on infants identified as "high-risk": What the epidemiological data have told us, what issues remain.** Eleanor Stokes Szanton (Chair).

At risk index to predict subsequent developmental problems in preterm and full term infants. Linda S. Siegel.

A model for systematic follow-up of infants after discharge from regional NICU's in urban, suburban and rural jurisdictions of Maryland. Misbah Khan.

A data based approach to designing a high-risk infant follow-up program. James A. Blackman.

**Poster Session** International Ballroom 9:00 - 11:00 A.M.

**SIBLING RELATIONSHIPS**

- F1. The structure of older siblings' tutorial role with infants. Laura Benigni & Jaan Valsiner.
- F2. Sibling interaction: Relationships with temperament and social experiences. Marguerite A. Roach.
- F3. Attachment and caregiving between infants and older siblings: Some antecedents and correlates. Douglas M. Teti & Michael E. Lamb.
- F4. Adaptation and responsiveness to a new sibling in firstborn girls. Laurie Gottlieb & Morton J. Mendelson.
- F5. The birth of a sibling and how it affects the quality of attachment between a mother and her firstborn. Margot Touris & Carol Harding.

**INFANT CRYING**

- F6. Maternal attributional style, physiologic response, infant temperament and father support as correlates of maternal illusion of control over infant crying. W.D. Donovan & L.A. Leavitt.
- F7. Responsiveness to infant crying: Effects of perceived infant temperament. Ann Frodi, Lisa Bridges, Susan Shonk & Lisa Greene.
- F8. Differences in parents' and nonparents' perception of cries: Re-evaluation using multidimensional scaling. James A. Green & Gwen E. Gustafson.
- F9. Simulations of the process by which cries influence caregiving behaviors. Gwen E. Gustafson, Jerry W. Cleland, & Karen L. Harris.
- F10. Communicative features of infant cry. Thomas Murry & Harry Hollien.
- F11. Responsiveness and responses of white New Zealand mothers to infant crying. Deborah B.G. Lees-Shepard.

**CORRELATES AND DESCRIPTORS OF MOTHER-CHILD INTERACTION**

- F12. Australian maternal behavioral rhythms across 4 infant states. Deborah B.G. Lees-Shepard.
- F13. Social density factors and child care in Italy. Rebecca New.
- F14. Social skills intervention and mother-child relationship. Cathryn L. Booth, Sandra K. Mitchell & Kathryn Barnard.
- F15. Rhythmic patterning in mother-newborn interaction. Meredith Censullo.

Friday, April 11

**Symposium** Monaco Room 10:00 - 11:50 A.M.

**Variability and infant behavior.** Joseph M. Byrne (Chair).

Vagal tone: The construct. Stephen W. Porges.

Vagal tone and socioemotional behavior. Nathan Fox.

Studies of temporal patterning estimates of variability. Barry Lester.

Variability as a dimension of infant behavior. Frances Degen Horowitz.

**Symposium** Versailles Ballroom 1 10:00 - 11:50 A.M.

**The process of mother-infant separation: Focusing on the mother.** Ellen Hock (Chair).

Determinants and consequences of mothers' anxiety about separation. Susan L. McBride.

Colic in the infant and maternal anxiety. Ruth Humphry.

Maternal separation anxiety: Effects of infant sex and birth order. Martha Pitzer & Ellen Hock.

**Symposium** Versailles Ballroom 2 10:00 - 11:50 A.M.

**Stress and infancy.** Debra Bendell (Chair).

Stressful procedures in the NICU. Tiffany Field.

The organization of "stress" responses in the newborn. Megan R. Gunnar.

School readiness and intraventricular hemorrhage in children born prematurely. Anita Miller Sostek, Kathy S. Katz, Joanne Valvano & Yolande F. Smith.

Very low birthweight infants and maternal stress. Debra Bendell, Terri Urbano & Rick Urbano.

**Symposium** Royal Suite 10:00-11:50 A.M.

**Newborn attention to auditory and visual stimuli.** Philip R. Zelazo (Chair).

Attention and head orientation in newborns. Marsha G. Clarkson & Rachel K. Clifton.

Influence of transient and sustained aspects of auditory stimuli on neonate attention. W. Keith Berg.

Newborn dishabituation toward auditory stimuli. Michael J. Weiss & Philip R. Zelazo.

Visual perception at birth. Alan M. Slater.

**Conversation Hours** 12:00 - 1:00 P.M.

THE DEVELOPMENT OF INTERPERSONAL UNDERSTANDING.

Inge Bretherton (Organizer).

Monaco Room.

Participants: Marjorie Beeghly, Daniel Stern, Edward Tronick & Dennie Wolf.

INVESTIGATING THE ASSOCIATION BETWEEN TEMPERAMENT AND CAREGIVING.

Susan Crockenberg (Organizer).

Versailles Ballroom 1

Participants: John Bates, Robert Plomin, Alan Sroufe, & Theodore Wachs.

**NEWBORN INFANT STRESS.**  
 Gene Cranston Anderson (Organizer).  
 Participants: Kayreen Burns, Peter Gorski, Allen Gottfried, & Megan Gunnar.  
**FROM BASIC TO APPLIED RESEARCH.**  
 Joseph Fagan (Organizer).  
 Participants: Steven Forges, Craig Ramey, & Davida Teller.  
**LUNCH**  
 1:00 - 2:00 P.M.  
**Royal Suite**  
 1:30-3:30 P.M.

**Poster Session** **International Ballroom** **1:30-3:30 P.M.**

**LANGUAGE DEVELOPMENT**  
 C1. Children's use of self-corrections in two speech settings. Stan Kuczaj.  
 C2. What makes communication run? Characteristics of successful communicative episodes. Roberta Michnick Golinkoff & Laura Gordon.  
 C3. Routines and language: The effect of routinized contexts on two-year olds' use of connective and temporal marker terms. Amy Kytratzis.  
**SOCIAL DIFFERENTIATION AND PREFERENCES**  
 C4. Infants' reactions to a stranger and a novel object. Marcelle Ricard & Therese Gouin Decarie.  
 C5. Control, predictability and the infant's appraisal of strangers: Developmental changes between 6 and 18 months. Sarah Mangelsdorf, Camilla Lehr & Julie Friedman.  
 C6. Recognition of mother from naturalistic interaction in the first three months of life. Sonya Rosenwald-Kurzweil.

C7. Awareness of animate-inanimate distinctions in infancy. Albert J. Caron & Darla J. Bersoff.  
 C8. Changes in infant social preference associated with self-produced locomotor experience. Roseanne Kernolan.  
 C9. Infant preferences for attractive faces: Rudiments of a stereotypic? Judith H. Langlois, Lori Roggman, Rita J. Casey, Jean M. Ritter & Vivian Jenkins.  
 C10. Gaze aversion in the first year of life. M. Shahrokh Shataie, Pat A. Self & Cynthia A. Noble.  
 C11. Person-object differentiation in infancy. Christine Elsworth.  
 C12. Facilitation by voices of 1-, 3- and 5-month-old infants' mother/stranger face discrimination. Denis K. Burnham, Lynda J. Earnshaw & Paula Olymbios.  
 C13. Sensory primacy in the infant's discrimination of the mother. Colleen Smitherman.  
 C14. Looking at parents and patterns during the first six months. Heidi Keller.  
 C15. Infants' reactions to mirror-reflected feature changes in their own and their mothers' faces. Jeffrey Field.

**PATERNAL AND FAMILIAL INTERACTIONS**

C16. Effects of infant sex and newborn behavioral characteristics on paternal perception of infant temperament and caregiving at eight months. L. Colette Jones.  
 C17. The role of the father in the infant's development of sociability with a stranger. Susan Kromelow, Carol Harding & Jill Nagy Reich.  
 C18. Bi-directional influence in mother-toddler and father-toddler play. Morris N. Mann & Beatrice Beebe.

**Invited Workshop** **Versailles Ballroom 1** **8:30 - 9:50 A.M.**  
**Practical strategies in analyzing multivariate longitudinal data.** Robert McCall.

**Symposium** **Versailles Ballroom 2** **8:30 -9:50 A.M.**

**Defining and alleviating the stresses of newborn intensive care: Parent and professional perspectives.** Glenn Affleck (Chair).  
 Rebuilding shattered assumptions following the birth of a high-risk infant: How parents adapt to the secondary stresses of newborn intensive care. Glenn Affleck, Howard Tennen, & Jonelle Rowe.  
 Nurses' perceptions of Puerto Rican families in a newborn intensive care unit. Deborah Allen.  
 Stress and coping of interns and residents in the NICU. Richard Marshall.

**Symposium** **Monaco Room** **10:00 - 11:50 A.M.**

**Habituation, familiarity and novelty preference: Implications for information-processing models of visual recognition memory.** Sheldon H. Wagner (Chair).  
 Distributed familiarization and test delay as predictors of infant preferences for familiarity and novelty. Michael A. Hunter.  
 Neonatal preferences for visual familiarity. Joseph F. Fagan and Kathleen A. Keiner.  
 A two-process model of infant attention. Peter S. Kaplan & John S. Werner.  
 Schema decay: from R-F-R-N to N-R-F-R. Sheldon H. Wagner & Walter D. Murphy.  
 Discussion Leader: Susan Rose

**Invited Symposium** **Versailles Ballroom 1** **10:00 - 11:50 A.M.**

**Federal support of research on infant behavior and development.** Peter Vietze (Chair), Susan Streufert, Teri Levitt, & Victoria Levin.

**Symposium**                      **Royal Suite**                      **2:00 - 4:00 P.M.**

**Mastery motivation and optimally challenging tasks: Issues in conceptualization and measurement.** Robert H. MacTurk (Chair).

The influence of task difficulty on toddler mastery motivation. George A. Morgan & Christine Maslin.

Development of mastery motivation at various levels of task difficulty. Robert MacTurk, James Demetre, Mary E. McCarthy & Peter Vietze.

Competence, persistence and motivation: Relationships in structured and unstructured assessments of high social risk 13 month olds. Susan J. Spieker & Colleen E. Morisset.

The motivation of intelligence. Elizabeth J. Hrcncir.

**Invited Address**                      **Grand Ballroom**                      **4:15 - 5:15 P.M.**

**An Infant's view of the planet Earth.** Emmy E. Werner.

Introduced by: Marian Sigman

**SOCIAL HOURS**                      **5:15 - 7:00 P.M.**

- C19. Paternal care in social contexts without the mother: Association with father infant interaction at one year. Frank A. Pedersen, Joan T. Suwalsky & Richard L. Cain.
- C20. Beyond the Triad: Family interaction. Marguerite B. Stevenson, Mary A. Roach, & Julie D. Elmen.
- C21. Parents childhood experience, marital relations and parent-child relationships. Hans-Jurgen Meyer.
- C22. Phases of family socialization after the birth of the second child. Kurt Kreppner.

**INDIVIDUAL DIFFERENCES/PREDICTION**

- C23. Cognitive development and reorganization after early brain injury. Jeri S. Janowsky.
- C24. Infant auditory discrimination and 8-year intelligence. Mary J. O'Connor.
- C25. Patterns of development predicted from measures of the infant's environment. Donna Bryant & Margaret Burchinal.
- C26. Task persistence in 2-year-olds. Marian Sigman.
- C27. Growth of the head in male & female infants from 8 to 22 weeks. Jane Gwiazda, Joseph A. Bauer, Jr., Richard Held, Rachel Clifton & Marsha Clarkson.
- C28. Behavior in the preterm newborn & psychosocial adjustment 6 years later. Susan A. Leib, Thomas E. Webb, D. Gary Benfield & John H. Vollman.
- C29. Infant predictors of stress responses in childhood and adolescence for Rhesus monkey. J.D. Higley, S.J. Suomi, J.S. Lande & R.D. Delizio.
- C30. Cognitive-social and emotional maturity of 18-month-olds. Claire B. Kopp & Joanne B. Krakow.
- C31. Continuous time models for the analysis of sequential categorical data. William Gardner.

**VISUAL DISCRIMINATION, ACUITY, PERCEPTION**

- C32. Linear systems analysis of infant visual fixation behavior. Howard M. Aposhyan, Peter Kaplan & John S. Werner.
- C33. The influence of a comparison stimulus on visual processing in infancy. Beverly J. Roder & Emily W. Bushnell.
- C34. Paraxial photorefraction and photokeratometry: Procedures for assessing refractive status in infants. Israel Abramov, Cheryl Camenzuli, Elizabeth Lemerise, Louise Hainline, Johannes de Bie & Hebert Peck.
- C35. Chromatic discrimination in the human newborn. Russell J. Adams.
- C36. How can the developing visual system maintain veridical depth perception. Martin S. Banks.
- C37. Infants' visual anticipation of complex spatio-temporal patterns. Richard L. Canfield & Marshall M. Haith.
- C38. A critical test of infant pattern preference models. James L. Dannemiller & Benjamin R. Stephens.
- C39. The development of gestalt perception in infancy. Hilary Schmidt & Elizabeth S. Spelke.
- C40. Visual acuity in neonates: The acuity card procedure. Terry L. Schwartz, Velma Dobson & Lisa Michel.
- C41. Infant contrast discrimination. Benjamin R. Stephens.
- C42. Four-month-old infants' sensitivity to kinetic and binocular information for three-dimensional shape. Albert Yonas, Martha E. Arterberry & Carl E. Granrud.
- C43. Rapid assessment of visual acuity in infants and toddlers with visual disorders. S. Lawson Sebris, Karen Preston & Mary Alice McDonald.
- C44. Infants' sensitivity to optical flow for specifying self-motion. Bennett I. Bertenthal, Sarah S. Dunn & Dina Bai.

**Symposium** Monaco Room 2:00 - 3:50 P.M.

**Ontogenetic timing: A systems approach.** Alan Fogel (Chair), Patricia Kenny, Timing of early sensory input: Effect on perceptual development. Gerald Turkewitz & Esther Thelen. Timing and systems in early motor development. Alan Fogel. Ontogenetic timing of facial and manual expressive action.

**Research Workshop** Versailles Ballroom 1 2:00 - 4:30 P.M.

**Parental perceptions of infant emotions: A new instrument.** Robert N. Emde (Organizer), Collaborative history of a new instrument for interpreting infant facial expressions of emotion. Robert N. Emde. Women "at risk" for parenting disorder perceive emotions in infant pictures differently. Perry M. Butterfield. Perceptions of infant emotions in adolescent mothers. Joy D. Osofsky & Edwin Gaddis. The meaning of infant emotional expressions. Doreen Ridgeway. Perceptions of infant emotions: Parents of abused children and a modification of the technique for use with school-aged children. Daniel N. Stern & Terry Kaplan. A comparative study of depressed and normal mothers. Carolyn Zahn-Waxler.

**Invited Speaker** Versailles Ballroom 2 2:00 - 2:50 P.M.

**Jokes and disputes: Siblings and mothers in the development of social understanding.** Judy Dunn. Introduced by: Wanda Bronson

**Symposium** Royal Suite 3:00 - 5:30 P.M.

**New directions in attachment research.** Abraham Sagl (Chair), The concept of attachment revisited. E. Kuno Beller and Angelika Pohl. The meaning of infant behavior in the strange situation: a cross-cultural perspective. Abraham Sagl & Nina Koren. A component process approach to the qualitative study of attachment system functioning. James P. Connell. Evolution and attachment. Sibodan Petrovich, Jacob L. Gewirtz & Eckhard H. Hess.

**Symposium** Monaco Room 2:00 - 4:00 P.M.

**The development of peripheral vision: New methods and initial findings.** Terri L. Lewis (Chair), Infants' visual fields along eight meridians. Velma Dobson, Terry L. Schwartz, & Dorothy J. Sandstrom. Visual field development in fullterm and preterm infants. Jackie van Hof-van Duin & Gesine Mohr. An LED perimeter method to study peripheral vision of infants and children. M. Cummings, D.L. Mayer, R.M. Hansen, & A.B. Fulton. The development of peripheral acuity. Daphne Maurer, Shelley Jobson, & Terri L. Lewis.

**Oral Presentations** Versailles Ballroom 1 2:00 - 4:00 P.M.

CHARACTERISTICS AND EFFECTS OF MATERNAL SPEECH

**What makes communication run? Characteristics of successful communicative episodes.** A moment of silence: How the prosodic cues in mothers might assist language learning. Kathy Hirsch-Pasek, Deborah C. Kemler Nelson, Peter Jusczyk & Kimberly Wright. 2:00 - 2:25 P.M.

**The structure and dynamics of early parental interventions: A potential contribution to evolution and ontogeny of speech.** Hanus Papousek. 2:25 - 2:50 P.M.

**Maternal speech to infants and toddlers: Influences of maternal education and attitudes in urban Mexico.** Amy L. Richman, Clara Sunderland Correa & Robert A. Levine. 2:50 - 3:15 P.M.

**Maternal attitudes and social interactions with preverbal Italian infants: The case of less equals more.** Rebecca S. New. Discussion Leader: Patricia Goldring Zukow. 3:15 - 3:40 P.M.

**Symposium** Versailles Ballroom 2 2:00 - 4:00 P.M.

**Issues in research and clinical applications of repeated NBAS tests.** Marion O'Brien (Chair), Range and regulation of state over the first month of life: Normative data and an NBAS revision. Joel Hoffman & Marion O'Brien. Premature infant refocus project: Serial NBAS evaluations of premature infants. Kathryn E. Barnard & Rebecca Kang. The relationship between NBAS profiles, 1-year Bayley and 5-year McCarthy scores. Carol Sepkoski. Discussants: T. Berry Brazelton & Frances Degen Horowitz.

Saturday, April 12

- E32. The meaning of infant visual habituation: Stability and reliability in the first year. John Colombo & D. Wayne Mitchell.
- E33. The analysis of infant habituation data, distributional problems and solutions. William Gardner.
- E34. Infants are not distractible during physiologically defined periods of sustained attention. John E. Richards.

**TEENAGE AND OLDER MOTHERS**

- E35. Adolescent mothers and their infants: Early temperament and behavior. Charles H. Zeanah, Marcia A. Keener, Thomas F. Anders & Catherine Vieira-Baker.
- E36. Development outcomes in children of teen mothers. Harold Gershenson, Judith Musick, Sharon Syc & Bonnie Umeh.
- E37. Transition to parenthood: Comparison of adolescent and non-adolescent mothers. Rex E. Culp, Anne M. Culp & Janet Levy.
- E38. Older primiparae and their infants: An exploratory study. Susan Bram.
- E39. Maternal age and parenting risk. Patricia M. Crittenden.
- E40. The use of a transactional model for studying risk factor and adolescent mother-infant interaction. Jayna M. Halverson & Alice Eberhart-Wright.
- E41. Childrearing and the development of difficult temperament in infants of adolescent mothers. Thomas G. Power, William L. Risser, Tammy M. Bourg & Marianne McGrath.
- E42. Caregiving in adolescent mothers: Sources of individual differences. Mary J. Ward, Susan W. Plunket & Daniel B. Kessler.

**MATERNAL USE OF ALCOHOL AND DRUGS AND INFANT DEVELOPMENT**

- E43. Maternal smoking & infant activity level. Judy Chipperfield & Warren O. Eaton.
- E44. Maternal drug use and neonatal temperament. Mary Thomas Noe & Marilyn L. Riese.
- E45. Alcohol use in elderly primips: Relation to infant attachment. Mary J. O'Connor, Marian Sigman & Nancy Brill.
- E46. Phencyclidine use in pregnancy and its effects on infant development. Kathy Sanders-Phillips, Xylina D. Bean & Sarah Simpson.
- E47. Alcohol use during pregnancy and neonatal outcome. Gale A. Richardson & Nancy L. Day.
- E48. A multimethod approach to the assessment of prenatal alcohol exposure. Gale Richardson, Mark Scher & Nancy L. Day.
- E49. Consequences of intrauterine exposure to cocaine. Ira J. Chasnoff, William J. Burns & Kayreen Burns.
- E50. Sudden infant death in infant exposed to opioid drugs in utero. Sydney L. Hans & Sandra S. Snook.

Friday, April 11

**Symposium**

**Versailles Ballroom 2**

**3:00 - 5:30 P.M.**

**The NBAS as an intervention device: Issues of who, what, when, where and why.** John Worobey (Chair).

Integration of the NBAS into routine maternity nursing care. Claudia Anderson.

Active vs. passive intervention strategies with low-risk families. Barbara J. Myers & John Worobey.

An NBAS-based intervention with full term low-birth-weight infants. J. Kevin Nugent, Joel Hoffman & T. Berry Brazelton.

Use of the NBAS as an intervention technique with preterm infants. Patricia Peters Martin.

Three-year follow-up of an intervention for LBW infants. Virginia Rauh, Barry Nurcombe & Thomas Achenbach.

Discussion Leader: T. Berry Brazelton

**Invited Address**

**Monaco Room**

**4:00-5:00 P.M.**

**Rebuilding brain circuits after injury: Developmental aspects.** Carl Cotman.

Introduced by: Bernard Karmel

**Invited Address**

**Versailles Ballroom 1**

**4:30-5:30 P.M.**

**Contemporary issues in the study of infant emotion.** Joseph Campos.

Introduced by: Anneliese Korner

**HEART RATE, RESPIRATION, AND SLEEP STATES**

- E10. Neurodevelopmental sequelae in the survivors of neonatal intracranial hemorrhage. C.W. Topinka, S. Willkerson, A. Reese, & A. Bloom.
- E11. Early integration of autonomic & behavioral response systems. J.M. Byrne, & C.L. Miller.
- E12. Effects of rocking on infant respiration. Joanne L. Mackinnon, Elinor W. Ames, Christopher M. Davis, Melanie Carfentan, Leslie F. Pierlot & Kirsta Lemke.
- E13. Sleep states among terminally ill, very sick, and healthy preterm infants. Linda B. Engler, Michael M. Haney, Kay A. Toomey, Susan L. Hronsky & Eugene K. Emory.
- E14. Behavioral and heart rate pattern differences between breast and bottle-fed neonates. Janet DiPietro, Sandra Larson & Stephen Porges.
- E15. Estimating activity from heart rate in preterm infants. R. Woodson.
- E16. Sucking, state and activity: Term-preterm comparisons. R. Woodson.
- E17. Respiratory stability in infants of adolescent mothers and its relationship to maternal stress. Patricia T. Becker.
- E18. The relation of cardiac and respiratory activity to spontaneous startles. Lee Huntington-ton.
- E19. The relationship between vagal tone and medical variables in preterm infants. Regina M. Cusson.
- E20. Neurofunctional analysis: Multitask assessment of brain-injured neonates. Judith M. Gardner, Bernard Z. Karmel & Edwin G. Brown.
- E21. Preterm infant heart rate in 12 behavioral states. Jane B. McNeely, Nancy E. Gill & Gene Cranston Anderson.
- E22. Non-nutritive sucking (NNS) and state modulation for preterm infants before feeding. Nancy E. Gill, Marylou Behnke, Jane B. McNeely & Army Mur Worth.
- E23. Early neurodevelopmental outcome of fullterm neonates treated for severe respiratory failure with ECMO. Penny Glass, Billie Short, Kathryn Anderson & Marilea Miller.
- ANTECEDENTS, CORRELATES, AND CONSEQUENCES OF INDIVIDUAL DIFFERENCES IN INFANT ATTENTION**
- E24. Intraventricular hemorrhage and visual information processing in preterm infants. Penny Glass & Anita Miller Sostek.
- E25. Visual recognition memory: Is it sensitive to mild cognitive impairments? Sharon Gottlieb & Fred Blasini.
- E26. Light level and eye opening in NICU. Katherine Lawson & Gerald Turkewitz.
- E27. The relationship between maternal behavior and infant attention. Katharine Lawson, Roseanne Parrinello & Holly Ruff.
- E28. Origins of cognitive skill in infants. Marc H. Bornstein & Catherine Tamis-LeMonda.
- E29. Mother-infant interaction: The selectivity of encouraging attention. Catherine Tamis-LeMonda & Marc H. Bornstein.
- E30. Attention of offspring of depressed mothers: The role of maternal influences. Zvia Breznitz & Sarah L. Friedman.
- E31. Non-cognitive correlates of infant visual behavior. John Colombo.

**Symposium**

**Early numerical cognition: The transition from infancy to early childhood.** Alice Klein & Prntice Starkey (Chairs).

Constructive processes in the early development of number. Alice Klein and Jonas Langer.

Social aspects of early number development. Geoffrey B. Saxe, Maryl Gearhart, and Steven R. Guberman.

Origins and development of arithmetic in toddlers. Prntice Starkey.

**Symposium**

**Antecedents and consequences of early mastery.** Ronald Seifer (Chair).

Relations among mastery assessed during problem solving, attachment security and free-play behavior. Brian E. Vaughn, Ronald Seifer, Gretchen Lefever & Cindee Smith.

Relation among early social interaction, mastery motivation, and language competence: Two approaches. Lisa J. Bridges, Ann Frodi & Wendy S. Grothick.

Mastery motivation in infants with Down syndrome. Peter Vietze, Mary McCarthy, Robert MacTurk, Susan McCusison & Leon Yarrow.

**Clinical Workshop**

**Visual assessment of the partially-sighted infant: What we know in 1986.** Eileen Schanek-Klitsch (Chair).

Clinical evaluation. Mitchell Scheiman.

Specialty testing. Eileen Schanek-Klitsch.

Functional assessment. Anna Bradford.

**Symposium**

**The development of the infant's self system.** Sandra Pipp (Chair).

Components of the self system: A theoretical perspective. Sandra Pipp.

The effects of separation on the self-system. Robert J. Harmon.

Organization of the self system in atypical populations. Dante Cicchetti.

**Poster Session**

**TEMPERAMENT: STABILITY, CORRELATES, MEASUREMENT**

- D1. Prenatal and postnatal maternal correlates of infant temperament and dyadic sensitivity. Thomas P. Reilly.
- D2. Temperament stability between the neonatal period and 24 months in full-term and preterm infants. Marilyn L. Reese.

International Ballroom

9:00 - 11:00

Royal Suite

8:00 - 9:20 A.M.

Versailles Ballroom 2

8:00-9:20 A.M.

Versailles Ballroom 1

8:00 - 9:20 A.M.

Monaco Room

8:00 - 9:20 A.M.



**Conversation Hours**

12:00 - 1:00 P.M.

THE EFFECTS OF THE ENVIRONMENT DURING THE PERINATAL PERIOD.

Gerald Turkewitz (Organizer).

**Monaco Room**

Participants: Peter Gorski, Louise Hainline, & Katherine Lawson.

MODELS OF EARLY ENVIRONMENTAL ACTION: CURRENT AND FUTURE STATUS.

Theodore Wachs (Organizer).

**Versailles Ballroom 1**

Participants: Jay Belsky, Robert McCall, Craig Ramey, & Arnold Sameroff.

SOCIALIZATION OF EMOTION.

Lauren Adamson (Organizer).

**Versailles Ballroom 2**

Participants: Michael Lewis, Hanus Papousek, & Edward Tronick.

CLINICAL RESPONSIBILITIES OF THE INFANT RESEARCHER.

Klaus K. Minde (Organizer).

**Royal Suite**

Participants: Leila Beckwith, Dante Cicchetti, & Daniel Stern.

DEVELOPING SOCIAL SKILLS IN YOUNG MENTALLY RETARDED CHILDREN.

Claire B. Kopp (Organizer).

**International Ballroom**

Participants: Jan Blacher, Peter Mundy & Peter Vietze.

LUNCH

1:00 - 2:00

**Poster Session**

**International Ballroom**

1:30 - 3:00 P.M.

CHARACTERISTICS AND DEVELOPMENT OF PRETERM INFANTS

- E1. Temperament profile of uncomplicated Dutch very low birthweight neonates. B.P. Cats, M. Lechner van de Noort, M. Tanke, F. Leenders, W. Wolters, A.J.M. de Bruijn & J. Hermanns.
- E2. Temperament responses of full-term and premature infants with varying degrees of intraventricular hemorrhages. Cynthia Garcia Coll, Betty R. Vohr, Alison Monds Ward, Benjamin Brann, Philip W. Shaul & Steven Mayfield.
- E3. Early developmental progress of preterm twins discordant for birthweight and risk. Anita Stauffer, William J. Burns, Kayreen A. Burns, Ruth B. Deddish, Jacob Melamed & Cathy Herman.
- E4. The development of acuity, perception, and memory in preterm infants with intraventricular hemorrhage and matched preterm controls. Dorothy J. Sandstrom & Mark S. Strauss.
- E5. Temperament ratings by mothers and fathers of preterm infants. James W. Plunkett, David R. Cross & Samuel J. Meisels.
- E6. Use of the Bayley infant behavior record with preterm infants before feeding. Samuel J. Meisels, David R. Cross & James W. Plunkett.
- E7. Cognitive outcomes of preterms with respiratory distress syndrome. Ina F. Wallace & Cecelia M. McCarton.
- E8. Low birthweight and normal birthweight 8-month-old infants: Receptive and productive language. M.B. Stevenson, L.A. Leavitt, J.F. Miller & R.S. Chapman.
- E9. Cognitive and motor development in <1000 gram infants. C.W. Topinka, S. Wilkerson, A. Reese & A. Bloom.

- D3. Birth order effects in infant activity level. Warren O. Eaton, Judy Chipperfield & Constance M. Dureski.
- D4. Behavioral inhibition in infants and children. Jane L. Gibbons, Maureen O. Johnson, Paula M. McDonough & J. Steven Reznick.
- D5. Individual differences in infant temperament: Consistency and covariates of self-calming in 6-month olds. Pamela D. West, F. Joseph McLaughlin, John J. Rieser, Penelope Brooks & Susan O'Connor.
- D6. The genetic and physiological correlates of temperament in young children. Brian T. Healy.
- D7. Infant temperament as a predictor of preschool behavior problems. Diane Guerin & Allen W. Gottfried.
- D8. Subjective and objective measures of infant temperament: A convergent validity study. Loretta A. Rieser-Danner.
- D9. Construction and initial validation of a new temperament questionnaire. H. Hill Goldsmith, Teresa K. Elliot & Karen L. Jaco.
- D10. Temperamental contributions to emotion and social interaction in the second year. Ross A. Thompson & James P. Connell.
- D11. Relationships between mother perceptions and observed episodes of infant distress: Components of perceived difficult temperament. Elizabeth M. Miller & John E. Bates.
- D12. Mothers'/fathers' ratings of temperament and mothers' mood. Grazia Attili.
- D13. The measurement of difficult child behavior. David MacPhee.

PARENT ATTITUDES, PERCEPTIONS, PREFERENCES

- D14. Influences on maternal self-perceptions. David MacPhee & Janette B. Benson.
- D15. Transition to parenthood: Relationships between prenatal variables, newborn assessments and newborn feeding. Rex E. Culp, Howard J. Osofsky, & Joyce M. Tobiasen.
- D16. A longitudinal examination of parental attitudinal changes toward child rearing as a result of an early intervention programme. Jeffrey L. Derevensky, Thomas Hadjistavropoulos, & Heather Wener.
- D17. Influences on maternal behavior: Child-rearing beliefs, social support and infant temperament. Tom Luster.
- D18. Sex and parity differences in the transition to parenthood. Carolyn J. Melert & Michael Kalinowski.
- D19. Effect of mode of delivery on mothers' perceptions and infant development. Nancy E. Meck, Pam Kochanevich-Wallace & Kathleen A. McCluskey-Fawcett.
- D20. Preferential treatment in premature twins: Some recent findings. Klaus Minde, D. Jeffers, & Peter Marton.
- D21. Physical attractiveness: A possible biasing factor in observing parent-infant interaction? Jean M. Ritter.
- D22. Caregiver perceptions of infant behaviors. Sharon A. Stringer, Andrea L. Starrett, & Linda R. Parker.
- D23. Transition to parenthood: An empirical study. Gudrun Gauda.

REARING ENVIRONMENTS, DAY CARE, MATERNAL EMPLOYMENT

- D24. The effects of stimulation on early infant development and maternal perception. Deborah Koniak & Susan Ludington.

**9:30 - 10:50 A.M. Monaco Room Oral Presentations**

**Iron deficiency anemia, iron therapy, and infant developmental test performance.** Betsy Lozoff, Abraham Wolf, Nancy M. Klein & Elias Jimenez. 9:30 - 10:00 A.M.

**Findings from a prospective developmental study of failure to thrive.** Charles A. Malone & Dennis Drotar. 10:00 - 10:30 A.M.  
Discussion Leader: Charles Ralston. 10:30 - 10:50 A.M.

**9:30 - 10:50 A.M. Versailles Ballroom 1 Symposium**

**Biological and social aspects of the infant cry.** Barry M. Lester (Chair).  
Cry analysis in preterm and term infants related to developmental outcome at 18 months and five years. Barry Lester.  
Cry analysis in SIDS victims. Michael Corwin, Howard Golub, Dorothy Kelly, Barry M. Lester & Daniel Shannon.  
Adult responses to infant crying: A conceptual model. Phillip Sanford Zeskind.  
Relationship between cry and social support in preterm and term infants. C.F. Zachariah Boukydis.

**9:30 - 10:50 A.M. Versailles Ballroom 2 Symposium**

**Process and outcomes of early intervention with high risk infants and parents.** Victoria Levin (Chair).  
Infant intervention beginning during pregnancy with women at social risk. Kathryn E. Barnard, Georgina A. Sumner & Diane Magyary.  
Intervention to increase responsive mother-infant interaction in a group at biological and social risk. Lella Beckwith.  
Patterns of interaction in adolescent mothers and their infants. Joy D. Osofsky and Anne M. Culp.

**9:30 - 10:50 A.M. Royal Suite Symposium**

**Developmental psychopathology: Models & data.** Michael Lewis (Chair).  
High-risk studies of mental illness. Arnold J. Sameroff.  
The development of depressive symptomatology. Michael Lewis.  
Infant precursors of later affective disorder: An "organizational", developmental psychopathology approach. Dante Cicchetti.

**11:00-12:00 Noon Grand Ballroom Invited Address**

**Infant mortality.** George Miller, Member of Congress; Chair, Select Committee on Children, Youth and Families.  
Introduced by: Allen Gottfried.

D25. Caregiving stability and day care continuity vs. daily association. E. Mark Cummings.  
D26. The influence of training and choices on teacher behavior in toddler day care. Mary Ellen Logue, Jacqueline Miles & Brenda K. Eheart.  
D27. Social development of infants and toddlers in Japanese day care. Irene Shigaki.  
D28. Employment and mother-infant separation. Debra K. Demeis, Ellen Hock & Susan McBride.

D29. Full time and part time maternal work: Effect upon infant attachment. Peter Barglow & Nancy Molitor.  
D30. Hierarchies and patterns of infants' attachments to employed mothers and to alternate caregivers. Virginia L. Collin.  
D31. Differences in mother vs. institution caretaker interactions with 3-month old infants. Joy M. Roe, Antonia Drivas & Shirley Feldman.

D32. Response to stress across the lifespan: Evidence for despair in adult Rhesus monkeys reared in group settings. W.W. Thompson, J.D. Higley, S.J. Suomi, S.A. Orman & R.D. Deltzo.  
D33. Individual differences in the adjustment of infants to day care centers. Ingrid Harman.

D34. Child interaction patterns in two different kinds of Swedish day-care settings: Extended mixed age-groups and ordinary day-care groups. Anita Soderlund.  
D35. Moderating conflict and aggression among toddlers. E.Kuno Beller, Dagmar Oidari, & Susanne Viermeikel.  
D36. The behavioral and neural effects of stimulation during olfactory experience in preweanling rats. Regina M. Sullivan & Michael Leon.

D37. Social policy and daily experiences of toddlers in family day care, Kibbutz, and day care centers in Israel. Miriam Rosenthal & Rina Shimoni.  
D38. Assessing infant (6-13 months old) handedness status. George F. Michel, Debra A. Harkin & Marsha R. Ovrut.

D39. Hand consistency, cognitive abilities and language laterality. Daniel W. Kee & Kay Bathurst.  
D40. Manual actions of three-month-old during face-to-face interaction: Evidence for early lateralization. Alan Fogel, Masatoshi Kawai, Sueko Toda & Jeanne Karns.  
D41. Selective impairment of expressive language in young children with early focal left hemisphere injury. Joan Stiles-Davis & Elizabeth Bates.

**PERINATAL STRESS**

D42. Main effects vs. interaction: Contrasting outcomes for chronic vs. acute perinatal insult. Michael N. Nelson, Mary E. Bozynski, Karen J. O'Donnell, Terence A.S. Matalon, Diane Genaze, Celine Rosati-Skeritch, Patricia Naughton, Ushanilini Vasani & Werner A. Meier.  
D43. Fetal stress during labor: Implications for infancy research. Eugene K. Emory.  
D44. Stress & coping during early development: The need for a systems theory approach. Megan R. Gunnar.  
D45. The physician-parent interview in a neonatal intensive care unit: The effects of different kinds of information. N.B. Perlman, R. Abramovitch & J. Freedman.

D46. Early breastfeeding and discharge home for premature infants in Bogota, Colombia: Kangaroo Method. Gene Cranston Anderson, Elizabeth A. Marks & Vivian Wahlberg. (Videotape) 9:30-11:00 A.M.