

Curriculum vitae

Personal details

Name: Prof. Dr. Eveline A. Crone

Address: Department of Developmental Psychology, Wassenaarseweg 52,
2333AK, Leiden, the Netherlands

Date and place of birth: 23-10-1975, Schiedam, the Netherlands

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Work experience

2009-present	Professor in Neurocognitive Developmental Psychology, <i>Leiden University</i>
2008-2009	Associate professor, Department of Developmental Psychology, <i>Leiden University</i>
2005-2007	Assistant professor, Department of Developmental Psychology, <i>Leiden University</i>
2003-2005	Postdoctoral associate, Center for Mind and Brain (advisor: Dr. Silvia Bunge), <i>University of California at Davis</i>
1999-2003	PhD, cum laude, Department of Developmental Psychology, Brain & Cognition program (advisor: Prof. Maurits van der Molen), <i>University of Amsterdam</i>
1997-1999	Master Student, Psychophysiology lab (advisor Prof. Richard Jennings) & Brain Development lab (advisor Dr. BJ Casey), <i>University of Pittsburgh</i>

Academic activities

Teaching:

Courses taught:

- Statistics & Methods and Basic Principles of Developmental Psychology (University of Amsterdam).
- Guest lectures (Development & Plasticity) in a Cognitive Neuroscience undergraduate course (University of California at Davis).
- Undergraduate and graduate courses related to developmental cognitive neuroscience (Leiden University). Undergraduate courses: "Cognitive Intellectual Development", "Social-Emotional Development", and "Emotion & Cognition". Graduate courses: "Developmental Cognitive Neuroscience", "Designing an Empirical Study", "Introduction to fMRI research", "Brain & Cognition: Brain Development (LIBC-minor)".

Supervision and Mentoring in the last 3 years:

Head of the Brain & Development Laboratory, with the following members:

- Post docs: Dr. Berna Guroglu (2008), Dr. Cedric Koolschijn (2009)
- PhD students: Linda van Leijenhorst (2005), Wouter van den Bos (2006), Dietsje Jolles (2007), Bregtje Gunther Moor (2007), Sietske Kleibeuker (2009)
- Research assistants: Cesco Willemse, Marianne ter Kuile, Zdena op den Macks
- Prior research assistants: Kiki Zanolie (currently PhD student at Erasmus University), Lottie Bullens (currently PhD student at the University of Amsterdam), Mariska Okkinga (currently enrolled in research master program in Leiden),
- Prior and current research master students: Egbert Hartstra (currently PhD student at Gent University), Jonne Oldenburg (currently PhD student at Gent

- University), Ellen van der Plas (currently PhD student at the University of Iowa), Anna van Duijvenvoorde (currently PhD student at the University of Amsterdam), Felice van Nunspeet (graduation June 2009), Bianca van den Bulk (graduation June 2009), Zdena op den Macks (graduation June 2009), Iro Xenidou-Dervou (graduation June 2009), Margot Schel (graduation June 2010).
- Numerous (honors) Bachelor and Master students who completed their education with an independent research thesis.
 - Mentor Research Master students Developmental Psychology

Committees/ Administrative Duties:

- 2009: Initiator LIBC-Junior (www.libc-junior.nl): Network for scientist in the area of developmental cognitive neuroscience at Leiden University
- 2009-2011: Chairman The Young Academy (DJA), Royal Dutch Academy of Sciences and Arts (KNAW)
- 2009: Member management team Leiden Institute for Brain and Cognition (LIBC)
- 2008: Member of the Psychology Research Master committee.
- 2007: Organizer monthly colloquia Leiden Institute for Brain and Cognition (LIBC)
- 2006-2009: Organizer Developmental Psychology Research Rounds

Conference organization:

Organization of:

- Expert meeting (2009, Amsterdam) 'Methods and Challenges in Developmental Neuroimaging' (together with Sarah Durston)
- International conference (2007, Amsterdam): Jean Piaget Society: 'Developmental Social Cognitive Neuroscience', together with Phil Zelazo and Michael Chandler.
- Expert meetings (2007, Leiden) 'Risks and Opportunities in adolescent brain development' (together with Michiel Westenberg and Linda van Leijenhorst)
- Expert meetings (2005, Amsterdam) 'Advances in developmental cognitive neuroscience' (together with Mariette Huizinga)
- Symposium 'Developmental Neuroscience' (2005 in Leiden: ESCOP)

Professional memberships:

- Society for Neuroscience
- Cognitive Neuroscience society
- Society for research in Child Development
- Jean Piaget Society
- Society for psychophysiological research
- European Society for Cognitive Psychology
- Human Brain Mapping
- Nederlandse Vereniging voor Psychonomie

Research schools:

Full membership:

- EPOS (Experimental Psychology)
- ISED (Institute for the Study of Education and Human Development)

Reviewer:

- Reviewer for the following journals (selection): *Assessment, Biological Psychology, Brain and Cognition, British Journal of Developmental Psychology, Cerebral Cortex, Child Development, Cognitive Brain Research, Cognitive Development, Developmental Science, Developmental Psychology, European Journal of Cognitive Psychology, European Journal*

of Neuroscience, European Journal of Child & Adolescent Psychiatry, Journal of Behavioral Decision-Making, Journal of Child Psychology and Psychiatry and Allied Disciplines, Journal of Cognitive Neuroscience, Journal of Experimental Child Psychology, Journal of Neuroscience, Journal of Psychophysiology, Neurocase, Neuroimage, Neuropsychologia, Neuropsychobiology, Perceptual and Motor Skills, Psychological Bulletin, Social Influence, Social, Cognitive and Affective Neuroscience, Trends in Cognitive Sciences.

- Reviewer for conference submissions (American Educational Research Association, Society for Research in Child Development)
- Reviewer for NWO's Dutch Social Science Research Council (MAGW) (Open Competition applications, VENI, VIDI applications).
- Reviewer international grant proposals (NSF, Wellcome Trust Fund).

Editorial Service:

- Guest editor special issue on 'Challenges and Methods in Developmental Neuroimaging' *Human Brain Mapping*, 2009
- Guest editor special issue on 'Advances in Developmental Cognitive Neuroscience' *Neuropsychologia*, 2006.
- Editorial Board *Developmental Science*
- Review Editor *Frontiers in Human Neuroscience*

Grants, scholarships and prizes

Research Grants:

- 2009 Starting grant LIBC-Junior (Leiden University: 60.000 E)
- 2008 PI MAGW Open competition grant (NWO: 200.000 E).
- 2008 Aspasia grant (NWO: 100.000 E)
- 2007 VIDI grant (NWO: 600.000 E)
- 2007 co-PI MAGW Open competition grant (NWO: 200.000 E; PI Maurits van der Molen, University of Amsterdam)
- 2007 Gratama Stichting & Leids Universitair Fonds (24.000 E)
- 2005 VENI grant (NWO: 200.000 E)
- 2005 co-PI NSF grant "Brain maturation subserving cognitive control development" (PI: Silvia Bunge, University of California in Davis (\$450.000)
- 2004 TALENT grant (NWO: 32.400 E)

Other Grants:

- 2008 NWO Joint Forces Grant Brain & Cognition (E 10.000)
- 2008 KNAW-De Jonge Academie grant (E 2000)
- 2008 EPOS conference grant (E 6000)
- 2008 ISED conference grant (E 2500)
- 2006 EPOS conference grant (E 6000)
- 2006 ISED conference grant (E 5000)
- 2006 NWO-Cognition conference grant (E 5000)
- 2006 NWO Visitor grant (E 1800)
- 2006 LUF conference grant (E 2500)
- 2004 EPOS conference grant (E 6000)
- 2004 NWO conference grant (E 9000)
- 2004 KNAW conference grant (E 3000)

Scholarships and prizes:

- 2009 Huibregtsen Award: for contribution of science communication to the general public (25.000 E).
- 2008 Junior Heymans prijs Nederland Instituut voor Psychologie (NIP)

- 2007 Five-year membership of 'De Jonge Akademie' (KNAW) (chairman as of 2009)
- 2007 Winner Johannes Cornelis Ruigrok award for contribution to human sciences (Koninklijke Hollandse Maatschappij der Wetenschappen)
- 2005 Nomination and Honorable mention: Award for excellence in post doctoral research, UC Davis.
- 2005 Bi-annual 'Best Dissertation 2003-2005 Award' from the Dutch Psychonomics Society (NVP)
- 2005 Stipend Dartmouth summer institute of cognitive neuroscience
- 2004 Society for Neuroscience (SFN)/ Burroughs Wellcome Fund Postdoctoral Travel Award
- 2003 Stipend from John Merck Fund Summer Institute on Biology of Developmental Disabilities, held in Princeton, July 2003
- 2002 Tursky Student Poster Award at Society for Psychophysiological Research
- 1999 Academic Award 'Best Master's thesis 1999' University of Amsterdam

Outreach to the community

- Website for the general public, developed together with experts in youth communication: www.kijkinjebreijn.nl
- Numerous news paper articles (interviews and science reports in NRC, Volkskrant, Algemeen Dagblad, Telegraaf, Financieel Dagblad, Trouw, Parool, HP/De Tijd, and others) radio interviews (Tros Nieuwsshow, Teleac, Noorderlicht, and others) and television performances (e.g. Nationale wetenschapsquiz voor jongeren, Teleac, Hart & ziel, Boeken) for downloads (www.brainanddevelopmentlab.nl, 'in the media')
- Numerous guest lectures at schools throughout the Netherlands
- Studium Generale Lecture Maastricht University (2007), Lustrum lecture Pre-University program Leiden University (2008), Studium Generale Lecture Utrecht University (2009), DIES alumni lecture Leiden University (2009).
- Participation 'Battle of the Universities'. Project is currently being continued and will result in website and school program for youth about brain development (Launched September 2009).
- Dutch science book for general public (Het Puberende Brein), nominated for the NWO's Eureka prize 2009
- Presentation at the Opening of the Academic year: Launching of LIBC-Junior (www.libc-junior.nl) and website for youth focusing on brain function (www.kijkinjebreijn.nl).
- Huibregtsen Award: 'Avond van de Wetenschap and Maatschappij 2009'. (see <http://www.avondwenm.nl/>)

Publications (organized by year and alphabetic order, * = key publication)

Manuscripts currently under review for publication

- O.** Crone, E. & Ridderinkhof, K. R. (2009). Developmental Cognitive Neuroscience: From theory to neuroimaging and back. Manuscript submitted for publication.
- O.** Guroglu, B., Van den Bos, W., & Crone, E. A. (2009). Unfair? It depends. Neural correlates of fairness consideration in social context. Manuscript submitted for publication.
- O.** Gunter Moor, B., Crone, E. A. & Van der Molen (2009). The heart-brake of social rejection: Heart rate change following acceptance and rejection. Manuscript submitted for publication.

0. Gunter Moor, B., Van Leijenhorst, L., Rombouts, S. A. R. B., Crone, E. A. & Van der Molen (2009). Do you like me? Brain regions mediating acceptance in adolescence. Manuscript submitted for publication.

0. Hartstra, E., Oldenburg, J., Rombouts, S. A. R. B. Van Leijenhorst, L., & Crone, E. A. (2009). Brain regions mediating rule learning in a 2-deck gambling task. Manuscript submitted for publication.

0. Jolles, D. D., Grol, M. J., Van Buchem, M., Rombouts, S. A. R. B., & Crone, E. A. (2009). Change in cerebral activation after working memory practice depends on task demands.

0. Van Leijenhorst, L., Westenberg, P. M & Crone, E. A. (2009). Heart rate and skin conductance analysis of developmental differences in risk-taking. Manuscript submitted for publication.

0. Van Leijenhorst, L., Gunter Moor, B., Op den Macks, Z. A., Rombouts, S. A. R. B. Westenberg, P. M & Crone, E. A. (2009). Brain development and risk-taking: Age related changes in contributions of affective and control regions. Manuscript submitted for publication.

In press

1. Van den Bos, W., Güroğlu, B., van der Bulk, B. G., Rombouts, S.A.R.B. & Crone, E. A., (In Press) Better than expected or as bad as you thought? The neurocognitive development of probabilistic feedback processing. *Frontiers in Neuroscience*.

2009

2. Crone, E. A. (2009). Executive functions in adolescence: insights from behavioral and brain analyses. *Developmental Science*.

3. Guroglu, B., Van den Bos, W., & Crone, E. A. (2009). Fairness considerations: Increasing understanding of intentionality in adolescence. *Journal of Experimental Child Psychology*.

4. Van den Bos, W., Van Dijk. E., Westenberg, P. M. & Crone, E. A. (2009). Developmental changes in trust and reciprocity. Manuscript submitted for publication.

5. Van Leijenhorst, L. & Crone, E. A. (2009). Paradoxes in adolescent risk-taking. In: Zelazo, P. D, Chandler, M. & Crone, E. A. (Eds). *Developmental Social Cognitive Neuroscience*. Oxford University Press.

6. Zelazo, P. D, Chandler, M. & Crone, E. A. (Editors). (2009) *Developmental Social Cognitive Neuroscience*. Oxford University Press.

7. Crone, E. A. & Westenberg, P. M. (2009). Development of the social brain in adolescence. *Handbook of Developmental Social Neuroscience* (Eds. Michelle de Haan & Megan Gunner, Guilford Press).

8. Crone, E. A., Wendelken, C., Honomichl, R., Van Leijenhorst, L., Bunge, S. A. (2009). Neurocognitive development of relation reasoning. *Developmental Science*, 12, 55-660.

9. Guroglu, B., Van den Bos, W., & Crone, E. A. (2009). The neural mechanisms for social relations. *Annals of the New York Academy of Sciences*, 1167, 197-206.

***10.** Van Leijenhorst, L., Zanolie, K., Van Meel, C. S., Westenberg, P. M., Rombouts, S. A. R. B. & Crone E. A. (2009). What motivates the adolescence? Brain regions mediating reward sensitivity in adolescence. *Cerebral Cortex*.

11. Van den Bos, W., Van Dijk, E., Westenberg, P. M. & Crone, E. A. (2009). What motivates reciprocity? Neural mechanisms for reciprocity. *Social, Cognitive and Affective Neuroscience*.

2008

12. Bunge, S. A. & Crone, E. A. (2008). Neural correlates of the development of cognitive control. In: J. Rumsey & M. Ernst (Eds.), *Handbook of Neuroimaging in Developmental Clinical Neuroscience*.

***13.** Crone, E. A., Bullens, L., Van der Plas, E. A. A., Kijkuit, E. & Zelazo, P. D. (2008). Developmental changes and individual differences in risk and perspective taking. *Development and Psychopathology*, 20(4), 1213-1229.

***14.** Crone, E. A., Zanolie, K., Van Leijenhorst, L., Westenberg, P. M., Rombouts, S. A. R. B. (2008). Neural mechanisms supporting flexible performance adjustment during development. *Cognitive, Affective and Behavioral Neuroscience*, 2, 165-177.

15. Crone, E. A. & Van der Molen, M. W. (2008). Neurocognitive analysis of developmental changes in decision-making and performance monitoring. In: M. Luciana & C. Nelson (Eds.), *Handbook of Developmental Cognitive Neuroscience*.

16. Van den Plas, E. A. A., Crone, E. A., Van den Wildenberg, W. P. M., Tranel, D. & Bechara, A. (2008). Executive control deficits in substance-dependent individuals: A comparison of alcohol, cocaine, and methamphetamine, and of men and women. *Journal of Clinical and Experimental Neuropsychology*, 26, 1-14.

***17.** Van Duijvenvoorde, A., Zanolie, K., Rombouts, S. A. R. B., Raijmakers, M., & Crone, E. A. (2008). Valuing the positive of adjusting the negative? A neurocognitive analysis of feedback-based learning. *Journal of Neuroscience*, 28, 9495-9503.

18. Van Leijenhorst, L., Westenberg, P. M. & Crone, E. A. (2008). A developmental study of risky decisions on the Cake Gambling Task: Age and gender analyses of probability estimation and reward evaluation. *Developmental Neuropsychology*, 33, 179-196.

19. Zanolie, K., Van Leijenhorst, L., Rombouts, S. A. R. B., & Crone, E. A. (2008). Separable neural mechanisms contribute to feedback processing in a rule-learning task. *Neuropsychologia*, 46, 117-126.

20. Zanolie, K., Teng, S., Donohue, S. E., Band, G. P. H., Rombouts, S. A. R. B., & Crone, E. A. (2008). Intradimensional and extradimensional switching between colors and shapes on the basis of positive and negative feedback: An fMRI and EEG study on feedback-based learning', *Cortex*, 44, 537-547.

2007

***21.** Crone, E. A. & Van der Molen, M. W. (2007). Development of decision-making in school-aged children and adolescents: Evidence from heart rate and skin conductance analysis. *Child Development*, 78, 1288-1301.

22. Huizenga, H., Crone, E. A. & Jansen, B. (2007). Decision making in healthy children and adults explained by the use of increasingly complex proportional reasoning rules. *Developmental Science*, 10, 814-825

23. Van Leijenhorst L., Crone, E. A. & Van der Molen. (2008). Developmental trajectories for object and spatial working memory: A psychophysiological analysis. *Child Development*, 78, 987-1000.

2006

***24.** Crone, E. A., Wendelken, C., Donohue, S. E., Honomichl, R. & Bunge, S. A. (2006). Brain regions mediating flexible rule use across development. *Journal of Neuroscience*, 26, 11239-11246.

***25.** Crone, E. A., Wendelken, C., Donohue, S. E., Van Leijenhorst, L., & Bunge, S. A. (2006). Neurocognitive development of the ability to manipulate information in working memory. *Proceedings of the National Academy of Sciences of the United States of America*, 103, 9325-9330

26. Crone, E. A., Bunge, S. A., Van der Molen, M. W. & Ridderinkhof, K. R. (2006). Switching between tasks and responses: A developmental study. *Developmental Science*, 9 (3), 278-287.

27. Crone, E. A., Wendelken, C., Donohue, S. E., & Bunge, S. A. (2006). Neural evidence for dissociable components of task switching. *Cerebral Cortex*, 16, 475-486.

28. Crone, E. A. Somsen, R. J. M., Zanolie, K., & Van der Molen, M. W. (2006). A heart rate analysis of developmental change in feedback processing and rule shifting from childhood to early adulthood. *Journal of Experimental Child Psychology*, 95, 99-116.

29. Crone, E. A. & Huizinga, M. (2006). Preface special issue: 'Advances in Developmental Cognitive Neuroscience'. *Neuropsychologia*, 44, 2015-2016.

30. Geurts, H. M., Van Oord, S., & Crone, E. A. (2006). Hot and cool aspects of cognitive control in children with ADHD: Decision-making and inhibition. *Journal of Abnormal Child Psychology*, 34, 813-824.

31. Van Leijenhorst, L., Crone, E. A., & Bunge, S. A. (2006). Neural correlates of developmental differences in risk anticipation and feedback processing. *Neuropsychologia*, 44, 2158-2170.

2005

32. Bunge, S. A, Wallis, J. D., Parker, A., Brass, M., Crone, E. A., Hoshi, E., & Sakai, K. (2005). Neural circuitry underlying rule use in humans and non-human primates *Journal of Neuroscience*, 9, 10347-10350.

33. Crone, E. A., Bunge, S. A., Latenstein, H., & Van der Molen, M. W. (2005). Characterization of children's decision-making: sensitivity to punishment frequency, not task complexity. *Child Neuropsychology*, 11, 245-263.

- 34.** Crone, E. A., Bunge, S. A., De Klerk, P., & Van der Molen, M. W. (2005). Cardiac concomitants of performance monitoring: Context dependence and individual differences. *Cognitive Brain Research*, 23, 93-106
- 35.** Donohue, S. E., Wendelken, C., Crone, E. A. & Bunge, S. A. (2005). Retrieving rules for behavior from long term memory. *Neuroimage*, 26, 1140-1149.
- 36.** Smulders, S. F. A., Notebaert, W., Meijer, M., Crone, E. A., Van der Molen, M. W, & Soetens, E. (2005). Sequential effects on speeded information processing: A developmental study. *Journal of Experimental Child Psychology*, 90, 208-234.
- 37.** Bechara, A., Noel, X, & Crone, E. A. (2005). Loss of Willpower: Abnormal Neural Mechanisms of Impulse Control and Decision-Making in Addiction. *Handbook of Implicit Cognition and Addiction*.
- 38.** Van den Wildenberg, W.P.M. & Crone, E. A. (2005). Development of response inhibition and decision-making across childhood: A cognitive neuroscience perspective. In F. Columbus (Ed.), *Child Psychology: New Research*. Hauppauge, NY: Nova Science Publishers.

2004

- ***39.** Crone, E. A., Jennings, J. R., & Van der Molen, M. W. (2004). Developmental change in feedback processing as reflected by phasic heart rate changes. *Developmental Psychology*, 40, 1228-1238.
- 40.** Crone, E. A., Ridderinkhof, K. R., Worm, M., Somsen, R. J. M., & Van der Molen (2004). Switching between spatial stimulus-response mappings: A developmental study of cognitive flexibility. *Developmental Science*, 7, 443-455
- 41.** Crone, E. A., Somsen, R. J. M., Van Beek, B., & Van der Molen, M. W. (2004). Heart rate and skin conductance analysis of antecedents and consequences of decision-making. *Psychophysiology*, 41, 531-540.
- 42.** Crone, E. A. & Van der Molen, M. W. (2004) Developmental changes in real-life decision-making: performance on a gambling task previously shown to depend on the ventromedial prefrontal cortex. *Developmental Neuropsychology*, 25, 251-279.
- ***43.** Ridderinkhof, K.R., Ullsperger, M., Crone, E. A., & Nieuwenhuis, S. (2004). The role of medial frontal cortex in cognitive control. *Science*, 306, 443-449.
- 44.** Van der Veen, F. M., Van der Molen, M. W., Crone, E. A., & Jennings, J. R. (2004). Phasic heart rate responses to informative and uninformative performance feedback, *Biological Psychology*, 65, 147-161.

2003

- 45.** Crone, E. A., Jennings, J. R., & Van der Molen, M. W. (2003). Sensitivity to stimulus interference and response contingencies in Attention-Deficit/Hyperactivity Disorder. *Journal of Child Psychology and Psychiatry and Allied Disciplines*, 44, 214-226.

46. Crone, E. A., Vendel, I., & Van der Molen, M. W. (2003) Decision-making in disinhibited adolescents and adults: insensitivity to future consequences or driven by immediate reward? *Personality and Individual Differences*, 35, 1625-1641.

47. Crone, E. A., Van Veen, F. M., Van der Molen, M. W., Van Beek, B., Somsen, R. J. M., & Jennings, J. R. (2003) Cardiac concomitants of feedback processing. *Biological Psychology*, 64, 143-156.

48. Van der Veen, F.M., Nieuwenhuis, S., Crone, E. A. & Van der Molen, M.W. (2003). Cardiac and electro-cortical responses to performance feedback reflect different aspects of feedback processing. In: *Errors, Conflicts and the Brain. Current Opinions on Performance Monitoring* (eds. M. Ullsperger & M. Falkenstein). Leipzig: MPI of Cognitive Neuroscience.

2000

49. Casey B. J., Thomas K. M., Welsh T. F., Badgaiyan R. D., Eccard C. H., Jennings J. R., Crone, E. A. (2000). Dissociation of response conflict, attentional selection, and expectancy with functional magnetic resonance imaging. *Proceedings of the National Academy of Sciences of the United States of America*, 97: 8728-8733.

In Dutch

50. Van Leijenhorst, L. & Crone, E. A. (2009). *Het adolescentenbrein: Inzichten in risicovol gedrag in de adolescentie uit de cognitieve neurowetenschappen*. Neuropraxis.

51. Crone, E. A. (2004). *Het ontwikkelende brein: Consequenties voor zelf-regulatie*. Neuropraxis, 5.

52. Crone, E. A. (2008). *Het puberende brein: Over de ontwikkeling van de hersenen in de unieke periode van de adolescentie*. Uitgeverij Bert Bakker/Prometheus.