LIBC
ANNUAL REPORT
2020
Universiteit Leiden
The Netherlands
2020 ‘IN SHORT’

2020 will be etched in our memories for a long time! At first it started out as a normal year. However, on March 12 the government announced a lockdown due to Covid-19. For the LIBC this meant that:

- fMRI research was not allowed
- researchers had to work from home
- the transition to online education had to be made quickly
- the entire support team had to work from home

And as for the yearly Public Science Day: we soon realized that we had to postpone this to hopefully 2021.

Many researchers used the fMRI research scan stop to analyse data and to write papers, so we are looking forward to a ‘paper boom’ next year.

New initiatives were developed too. Even a new hotspot ‘LIBC A.I.’ was founded. We are looking forward to new interdisciplinary research possibilities!

From July fMRI research was allowed again (with Covid-19 restrictions). From that moment, researchers tried to catch up as many scanning hours as possible.

In short: we can look back on a year full of obstacles, but also on a year in which many obstacles were overcome.

LIBC Board
Michiel van Elk was awarded a VIDI grant for his research on the effects of psychedelics. The awarded grant not only increases the credibility of psychedelic research, it also lays the groundwork for the psychedelic field to flourish in years to come. Research on the effect of psychedelics creates opportunities as the current means against depression and anxiety-disorders are only mildly effective.

Dutch researchers are joining forces to conduct research together with a series of societal partners to keep the biological clock healthy in our modern 24-hour society. The BioClock consortium received a research grant of no less than €9.7 million. It is one of the projects that received funding within the program of the Dutch National Research Agenda of the Dutch National Research Council (NWO), to which the public could submit their questions. Project leader is Joke Meijer, professor of neurophysiology. Niki Antypa (Clinical Psychology) is one of the co-applicants, who will focus on interventions.

On September 10, Klodiana-Daphne Tona received her doctorate titled 'Investigating the human locus coeruleus-norepinephrine system in vivo: discussions on the anatomy, involvement in cognition and clinical applications'. She studied a small brainstem nucleus, the locus coeruleus. She focused on its anatomy and the link with stress, arousal and cognitive flexibility. She also involved physiology, namely hormone and pupil responses. The brainstem nucleus and physiological responses together form a system that has mainly been studied in animals.

Anne-Laura van Harmelen has been appointed Professor of Brain, Safety and Resilience at Leiden University. She contributes to knowledge and insights about the interactions of social determinants. Such as family of origin, influence of peers, neurobiological processes and various aspects of forensic care. This includes diagnostics, prevention and treatment of transgressive behaviour. Furthermore she will make an important contribution to the public debate by providing clear insights into academic findings and collaborating with social partners.
Andrea Evers has been particularly honored to become a member of:

- The Royal Holland Society of Sciences and Humanities
- The KNAW (Royal Netherlands Academy of Arts and Sciences)
- The Supervisory Board of the Vrije Universiteit

On January 14, Janna Marie Bas-Hoogendam received her doctorate titled 'Extremely Shy & Genetically Close'. Her research has shown that there are genetic brain characteristics that are associated with social anxiety. Around 10% of the population suffers from social anxiety to such an extent and in so many situations that they withdraw from social situations. It is possible to treat both the disorder and genetic vulnerability to it, as the brain is capable of making new connections. This means that treatment can minimise feelings of anxiety through treatment, and reduce the associated avoidance behaviour, possibly with the aid of medication.

On October 13, Cesko Cis Voeten defended his PhD thesis titled ‘The adoption of sound change; synchronic and diachronic processing of regional variation in Dutch’. His research bridges five key areas of linguistics: historical phonology, sociophonetics, psycholinguistics, neurolinguistics, and quantitative linguistics. Using an experimental approach and highly sophisticated statistical methods, he shows that Flemish speakers who have moved to the Netherlands rapidly acquire allophonic variation at the phonological level, but that it takes a long time for this to show up in their production and perception, and that this is subject to individual differences.

Elseline Hoekzema received a large European grant from the European Research Council (ERC). This ERC starting grant for promising young researchers allows her to investigate the effects of pregnancy on the brain in detail. Elseline Hoekzema: 'During pregnancy, a woman is exposed to an unparalleled flood of hormones. The €1.5 million of the ERC starting grant will allow me to investigate how a woman’s brain changes throughout pregnancy and the postpartum period in detail.'

On March 12, Michelle Achterberg received her doctorate titled ‘Like me, or else ... Nature, nurture and neural mechanisms of social emotion regulation in childhood’. Children’s brains react in the same way to social feedback as adults’ brains. But handling frustration or aggression after being rejected is a different matter, developmental psychologist Michelle Achterberg has discovered. Using fMRI techniques, the development of the child brain has now been studied for the first time in a large sample study.
ERC
• Starting Grant
  Dr. Elzeline Hoekzema
  ‘Pregnancy is a period of unique and drastic brain plasticity’

NWO GRANTS
• VIDI
  Dr. Michiel van Elk
  ‘Psychedelics in Perspective’
• VENI
  Dr. Milica Nikolic
  ‘Please excuse my behavior’
• Rubicon
  • Dr. Janna Marie Bas-Hoogendam
    National Institute of Mental Health, United States
  • Dr. Aleksandrina Skvortsova
    McGill University, Canada
• Science Diplomacy Fund
  Prof. Niels Schiller
  ‘Multilingualism: an impetus for education and the economy
• Aspasia
  Dr. Mariska Kret
  Shared with talented young female scientists: Janna Marie Bas-Hoogendam, Stefanie Meeuwis and Eliška Procházková
• Dutch Research Agenda (Nationale Wetenschapsagenda, NWA)
  • Crossover call
    BioClock consortium with (lead applicant) prof. Joke Meijer
    with dozens of partners such as the Leiden Institute for Environmental Sciences, Institute of Biology Leiden, Leiden Academic Centre for Drug Research, Clinical Psychology, Leiden University Treatment and Expert Center (LUBEC), Naturalis, Center for Human Drug Research and Janssen Pharmaceuticals
  • Dr. Rebecca Schaefer
    SNAAR festival: An accessible link between music and science
Other

- Gratama Foundation & Leiden University Fund (LUF)
  Dr. Laura Steenbergen
  ‘Disruption to the gut flora & mental health’
- Heineken Young Scientists Award
  (KNAW, Royal Netherlands Academy of Arts and Sciences)
  Dr. Anna van Duijvenvoorde
- Young Academy Leiden (YAL)
  Dr. Anna van Duijvenvoorde en Stephanie Rap
  ‘444 Interdisciplinary Activity Grant’
- FNV Trade Union
  Fenna Poletiek & Erik de Kwaadsteniet
  ‘The psychological effect of a basic income’

Appointments, nominations & Awards

- Dr Anne-Laura van Harmelen has been appointed as
  Professor of Brain, Security and Resilience
  (Education and Child Studies)
- Andrea Evers has been appointed as member of
  - The Royal Holland Society of Sciences and Humanities
  - The KNAW (Royal Netherlands Academy of Arts and Sciences)
  - The Supervisory Board of the Vrije Universiteit
January 9, **Charlotte van Schie**; Knowing me Knowing you
Supervisors: Prof. Bernet Elzinga, prof. Serge Rombouts & prof. Willem Heiser

January 14, **Janna Marie Bas-Hoogendam**; Extremely shy & genetically close Investigating neurobiological endophenotypes of Social Anxiety Disorder
Supervisors: Prof. Nic van der Wee, prof. Michiel Westenberg & dr. Henk van Steenbergen

January 22, **Annemarie Madani-Abbing**; Art therapy & Anxiety
Supervisor: Prof. Hanna Swaab

March 12, **Michelle Achterberg**; Like me, or else ... Nature, nurture and neural mechanisms of social emotion regulation in childhood
Supervisors: Prof. Eveline Crone & prof. Marian Bakermans-Kranenburg (VU Amsterdam)

April 30, **Astrid Kraal**; Different Readers, Different Texts, Different Processes: The effects of reader and text properties on text processing
Supervisor: Prof. Paul van den Broek

May 6, **H. Liu**; The Roots of Intentionality in Aristotle's Theory of Psychology
Supervisor: Prof. Frans de Haas

May 14, **M. Panagiotou**; Sleep alternations in the course of aging: Environmental Inputs
Supervisor: Prof. Joke Meijer

May 28, **Renate Buisman**; Getting to the Heart of Child Maltreatment: a Multidimensional Investigation using an Extended Family Design
Supervisors: Prof. Lenneke Alink & prof. Marian Bakermans-Kranenburg (VU Amsterdam)
June 3, Stephanie Meeuwis; Placebo and nocebo effects in itch: from conditioning to psychophysiological effects
Supervisors: Prof. Andrea Evers

June 3, Kirsten Koolstra; Fast Acquisition and Reconstruction Techniques in MRI
Supervisor: Prof. Andrew Webb

June 4, Saskia Lensink; Processing Lexical Bundles
Supervisors: Prof. Niels Schiller & prof. Arie Verhagen

June 9, Renée Dijkhuis; Autism in higher education: an investigation of quality of life
Supervisors: Prof. Hanna Swaab & prof. Wouter Staal

September 10, Klodiana Tona; Investigating the human locus coeruleus-norepinephrine system in vivo: discussions on the anatomy, involvement in cognition and clinical applications
Supervisors: Prof. Sander Nieuwenhuis & prof. Birte Forstmann (UvA)

September 15, Sabine van der Asdonk; Growing up safely: attachment-based interventions in child protection cases
Supervisor: Prof. Lenneke Alink

September 29, Nikita Schoemaker; I'll take you under my wing: positive parenting in foster care
Supervisors: Prof. Lenneke Alink & prof. Femmie Juffer

October 7, Omar Burhan; Nepotism
Supervisor: Prof. Daan Scheepers

October 13, Cesko Voeten; The adoption of sound change
Supervisors: Prof. Claartje Levelt & prof. Yiya Chen
October 14, **M.A.W. Rinne-Albers;** Childhood sexual abuse and its effect on adolescent brain structure  
Supervisors: Prof. Robert Vermeiren & prof. Nic van der Wee

October 14, **Rogier Feis;** Neuroimaging biomarkers in genetic frontotemporal dementia: towards a timely diagnosis  
Supervisors: Prof. Serge Rombouts & prof. Mark van Buchem

November 18, **Danielle Bartels;** Placebo and Nocebo effects on itch  
Supervisors: Prof. Andrea Evers & prof. P.C.M. van de Kerkhof  
(University of Amsterdam)

November 25, **Malou Noten;** Empathy and its association with aggression in early childhood  
Supervisors: Prof. Hanna Swaab & prof. S.H.M. van Goozen
Press (online & printed)

- Anna van Duijvenvoorde – Volkskrant 29 juni, Prijswinnende onderzoeker: ‘Half jaar school missen kan erg ingrijpend zijn voor tieners’
- Janna-Marie Bas-Hoogendam – Quest 38, De ziekte van Schroom
- Willem van der Does – Scientias.nl 30 mei, Dit is waarom we de corona-regels aan onze laars lappen
- Zsuzsika Sjoerds – Het Parool 24 mei, Keert het vertrouwen in de wetenschap terug?
- Lenneke Alink - BNNVARA Zembla 31 maart, Meer hulpvragen huiselijk geweld via online chatdiensten
- Eveline Crone – NRC 13 juni, Hebben smartphones een generatie verwoest? Nou nee
- Gert-Jan Lelieveld – NRC Angst 2 maart, Angst voor het Corona-virus is ook een subjectief gevoel
- Ineke van der Ham – De Volkskrant 31 januari, Maakt Google Maps ons brei lui? De weg-wijs wetenschap wint terrein

Radio & television

- Andrea Evers – Jinek 15 oktober, Chaos in Den Haag: massale verontwaardiging
- Michiel van Elk – NPO 1 Focus – 4 december, Trippen als therapie. Psychedelica, werkt het?
- Peter Bos – VPRO-serie ‘Grote Vragen’ 15 oktober, Wat gebeurt er in ons lichaam als we zorgen? Universitair hoofddocent Peter Bos vraagt zich af welke factoren impact hebben op ons zorggedrag en wat daarbij de rol van hormonen is.
- Laura Steenbergen – NPO 1 Nieuwsweekend 25 juli, Word je van antibiotica depressief?
- Janna-Marie Bas-Hoogendam – Radio Veronica 15 januari, Verlegenheid is genetisch
- Ellen de Bruijn – RLT 4 Editie NL 7 april, Stressvolle tijden: ‘Een knuffel, telefoongesprek en seks kunnen helpen’
- Sabine Peeters – NPO Radio 1 Met het Oog op Morgen 17 april, Wat betekent de Corona crisis voor tieners
- Andrea Evers – NPO Nieuwsuur 27 oktober, Persmoment over de coronacrisis, het effect van de maatregelen
- Andrea Evers – NOS 28 april

Leiden University news

- Daniëlle Bartels, 24 november, If you expect an itch, you’ll get an itch
- Malou Noten, 23 november, Childhood empathy important predictor of aggression
- Daniëlle Bartels, 19 November, Friendship strengthens mental resilience of adolescents with unpleasant childhood experiences
• Bernet Elzinga; Chris Hoeboer; Philip Spinhoven, 16 november, Emotional abuse strongly related to post-traumatic stress
• Frederieke Behrens, 26 october, Mirror on the wall, who’s the best at mirroring?
• Renate Buisman, 25 mei, Don’t just lump together child abuse and child neglect
• Judith Schomaker, 1 mei, Why the brain needs to get out and about
• Jos Brosschot, 8 april, How isolation can cause stress

Blogs
• Lenneke Alink - Leiden Pedagogiek Blog 16 november, Leren van elkaar
• Nienke Bouw, Leiden Pedagogiek Blog 31 maart, Een blik onder de oppervlakte van autisme
• Marloes van Moort - Leiden Pedagogiek Blog 23 januari, Waarom je niet alles onthoudt wat je leest
• Lotte van Dillen - Psychology Blog 14 december, Leiden, No need to be scared: appealing to fear to change behavior
• Marieke Tollenaar - Leiden Psychology Blog 9 november, Pandemics: Survival of the ‘most anxious’?
• Eduard Klapwijk – Leiden Psychology Blog 16 juni, Taking concrete steps to Open Science
• Marit Ruitenberg – Leiden Psychology Blog 27 mei, Learning a new skill while staying at home
• Niels van Doesum – Leiden Psychology Blog 22 April, Keeping social distance obliges others to be prosocial
• Mara van der Molen – Leiden Psychology Blog 14 april, Videoblog: The social brain in middle childhood
• Ilse van de Groep – Leiden Psychology Blog 14 april, When the mind’s eye is blind: why do some people lack mental imagery?

Podcast
• In the series ‘Science shots’ podcasts of the Univeristy of Leiden: Stefanie Meeuwis, The magic behind a placebo (in Dutch)
Board

• Prof.dr. Bernet Elzinga (Psychology, FSS)
• Dr. Dietsje Jolles (Educational Sciences)
• Prof.dr. Claartje Levelt (Linguistics, FGW)
• Prof.dr. Ir. Thijs van Osch (Radiology, LUMC)
• Prof.dr. Serge Rombouts (Radiology, LUMC & Psychology, FSS), chair
• Dr. Laura Steenbergen (Psychology)
• Prof.dr. Nic van der Wee (Psychiatry, LUMC)

Members

• Senior researchers: 115
• Post-docs: 25
• PhD students: 95

LIBC staff

• Dr. Anne Hafkemeijer, MRI research coordinator/consultant (0.6 fte)
• Anne-Fleur Latuhihin, assistant (0.5 fte)
• Mattanja Latuhihin-van der Wielen, management assistant (0.4 fte)
• Elio Sjak-Shie, technical support for Social Science researchers (0.2 fte)
• Gijs Vermeij, laboratory technician (0.2 fte)
• Marissa Wolswijk, laboratory technician/manager LIBC scanner (0.6 fte)

Equipment: LIBC members currently have access to the following equipment

• 3T and 7T MRI scanners at the LUMC
• MRI dummy scanner at the LUMC
• Electrophysiological lab at the FH
• Neurofeedback lab at the FSS
• Psychophysiological lab at the FSS
• Infant labs (visual and auditory) at the FSS & FH
• Systems for eye-movement measurements at the FH
• More than 20 labs for behavioral research at the FSS
• fNIRS lab at the FSS
• tDCS lab at the FSS
• Phonetics lab at the FH
Training and education

• fMRI Data and Statistics
  50 MA students
  Coordinator: prof.dr. Serge Rombouts & dr. Anne Hafkemeijer
• LIBC Minor program on ‘Brain and Cognition’
  50 BA students
  Coordinator: dr. Zsuzsika Sjoerds
• Minor program educational sciences ‘Kindermishandeling en Verwaarlozing: een levensloopperspectief’ (Dutch)
  178 BA students
  Coordinator: Doreen Arnoldus
• Evidence-Based Cognitive Enhancement
  40 BA students
  Coordinator: dr. Bryant Jongkees
• Improving Human Performance in Practice
  50 BA students
  Coordinator: dr. Guido Band

Yearly public symposium

• Due to the Covid-19 virus restrictions the yearly public symposium had to be cancelled

Sylvius Lectures

• Due to the Covid-19 virus restrictions Sylvius Lectures could not be organized

LIBC Hotspots

• LIBC A.I.
• LIBC Junior
• LIBC Human Potential
• LIBC Language and Communication
• LIBC Social
• LIBC Stress and Emotion
Achterberg M., Duijvenvoorde A.C.K. van, IJzendoorn M.H. van, Bakermans-Kranenburg M.J. & Crone E.A.M. (2020), Longitudinal changes in DLPFC activation during childhood are related to decreased aggression following social rejection, PNAS 117(15): 8602-8610


van Berlo, E., Díaz-Loyo, A.P., Juárez-Mora, O.E. et al. (2020). Experimental evidence for yawn contagion in orangutans (Pongo pygmaeus), Scientific Reports 10, 22251


SELECTED PUBLICATIONS
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