SABPA PROSPECTIVE COHORT STUDY (2008-2017) PROGRESS

PRINCIPAL INVESTIGATOR: PROF LEONÉ MALAN
http://stressed-project.co.za/data-dissemination/

A. CURRENT STATUS
Successful completion of the 3year follow-up (87.8%).

B. SABPA ACTIVE NATIONAL AND INTERNATIONAL COLLABORATORS (2007-)

<table>
<thead>
<tr>
<th>NAME OF COLLABORATOR</th>
<th>ENTITIES</th>
<th>FOCUS OF COLLABORATION</th>
<th>ACTIVE COLLABORATION: SABPA &amp; STRESSED PROJECTS</th>
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<tr>
<td>INTERNATIONAL</td>
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<tr>
<td>1. Prof N Frasure-Smith (PhD)</td>
<td>McGill University, Centre de Recherche de Université de Montréal &amp; Montreal Heart Institute, Quebec, Canada</td>
<td>Depression and CVD risk</td>
<td>Co-author, SABPA design</td>
</tr>
<tr>
<td>2. Prof M Hamer (PhD); Extra-ordinary Professor (HART)</td>
<td>University College of London, UK</td>
<td>Psychophysiological responses</td>
<td>Author/Co-author, external examiner, co-promoter, SABPA design</td>
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<tr>
<td>3. Prof T Ziemssen (MD, PhD)</td>
<td>Techniklinikum Dresden, Germany</td>
<td>Autonomic Function Retinal vessel analyses</td>
<td>Co-author, co-promoter, Stressed cohort</td>
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<td>4. Dr M Reimann (PhD)</td>
<td>Techniklinikum Dresden, Germany</td>
<td>Autonomic Function Retinal vessel analyses</td>
<td>Author/co-author, co-promoter, Stressed cohort</td>
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<tr>
<td>5. Dr W Vilser (PhD, Ing)</td>
<td>Imedos, Jena, Germany</td>
<td>Retinal vessel analyses</td>
<td>External control SABPA retinal images, funding software, co-author</td>
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<td>6. Prof K Kotliar (PhD, Ing)</td>
<td>FH Aachen University, Jülich, Germany</td>
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<td>7. Prof C Kirschbaum (PhD)</td>
<td>Techniklinikum Dresden, Germany</td>
<td>HPA axis and Psychophysiological Responses</td>
<td>Co-author (funding: cortisol, testosterone analyses), Takotsubo project collaborator</td>
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<tr>
<td>8. Prof R von Känel (MD, PhD)</td>
<td>Klinik Barmerweid AG, Chefarzt Psychosom, Barmerweid,Switzerland</td>
<td>Procoagulation, CVD and mental stress</td>
<td>Author/Co-author, co-promoter</td>
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<tr>
<td>9. Prof JCN de Geus (PhD)</td>
<td>Vrije Universiteit, Amsterdam, The Netherlands</td>
<td>Genetic polymorphisms, autonomic function and mental stress</td>
<td>Co-author</td>
</tr>
<tr>
<td>10. Prof M Schlaich  (MD, PhD)</td>
<td>Dobney Chair Clin Res, School Medicine &amp; Pharmacol, Royal Perth Hospital Unit, University Western Australia, Perth, Australia. Baker IDI Heart and Diabetes Institute, Melbourne, Australia</td>
<td>Renal Physician &amp; Hypertension Specialist Retinal vessel analyses</td>
<td>Co-author, funding: 24h urine catecholamine and cortisol</td>
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<td>11. Prof GW Lambert (PhD)</td>
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<td>Neurogenic Hypertension</td>
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<td>12. Prof A Alkerwi (MD, PhD)</td>
<td>Luxembourg Institute of Health, Luxembourg</td>
<td>Cardiometabolic responses</td>
<td>Co-author</td>
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<td>13. Prof S Stranges (MD, PhD)</td>
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<td>14. Prof N Kandala (MD, PhD)</td>
<td>Dept Heart Failure Valvular Disease, Malmö, Skåne University Hospital, Lund University, Malmö, Sweden.</td>
<td>SABPA: Metabolomics, diabetes progression and Cardiovascular disease</td>
<td>Author/Co-author</td>
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<tr>
<td>15. Prof M Magnusson (MD, PhD)</td>
<td>Dept Heart Failure Valvular Disease, Malmö, Skåne University Hospital, Lund University, Malmö, Sweden.</td>
<td>SABPA: Metabolomics, diabetes progression and Cardiovascular disease</td>
<td>Author/Co-author</td>
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<td><strong>SUB-SAHARAN AFRICA</strong></td>
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<td>16. Prof A-P Kengne (PhD)</td>
<td>Non-Communicable Disease, MRC, Cape Town, Cape</td>
<td>Cardiometabolic responses</td>
<td>Co-author</td>
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<tr>
<td>17. Prof YK Seedat (MD, PhD)</td>
<td>Renal Disease Unit, University of KZN, Natal</td>
<td>Planning: co-author, external examiner</td>
<td>Co-author, Dept. Health Guidelines Advisory Board support</td>
</tr>
<tr>
<td>18. Prof R Delport (RN, PhD)</td>
<td>Dept Chemical Pathology, University of Pretoria</td>
<td>Cardiomyopathy</td>
<td>Co-author, collaborator</td>
</tr>
<tr>
<td>19. Prof M Joffe (PhD)</td>
<td>Dept Epidemiology, WITS, Johannesburg</td>
<td>Cardiomyopathy</td>
<td>Co-author, collaborator</td>
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<tr>
<td>20. ROCHE Diagnostics</td>
<td>Randburg, Gauteng</td>
<td>Cardiometabolic responses</td>
<td>Reagents</td>
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<tr>
<td>21. Multi-disciplinary team of NWU</td>
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**HART**  
**Electrical & Electronic Engineering**  
(P J van Vuuren)  
**PharmaCEN:** (BH Harvey, L Brand)  
**Education:** (PJ Mentz)  
**AUTHer:** (JC Potgieter, T Khumalo)  
**PhasRec:** (JH de Ridder, A Pienaar)  
**Fieldworker:** Mr GJ Motlhasedi  
- HART: cardiometabolic profile  
- Electrical & Electronic Engineering  
- PharmaCEN, Education, AUTHer: Psychological distress  
- PhasRec: Physcial activity, Anthropometry  
- AUTHer: Oxidative stress, metabonomics, genetic screening,  
- Fieldworker  
**HART**  
**Funding,** collection of data, co-authoring  
**Electrical & Electron Eng.:** Bio-engineering modeling: StressEd phenotype  
**PharmaCEN**  
**Funding,** biochemical analyses, co-authoring  
**Education**  
**Funding,** co-authoring  
**AUTHer**  
**Psychology:** data collection, Author/co-author  
**Biochemistry:** funding, analyses, Co-author  
**PhasRec**
Funding, data collection & analyses, Author/Co-author

Fieldworker
African Culture Expert:
Recruitment, feedback

FUNDING

1. National Contribution (NWU Multidisciplinary team):

   1. Subtotal: R2 918 700.00

2. Third Stream Funding

   - Solutions Findings R22 495.00
   - Free State University R471 200.00
   - ROCHE Diagnostics SA R1 300 000.00
   - PA & Alize Malan Trust R17 000.00
   - SABPA MSI award R70 000.00
   - NRF R380 000.10
   - MRC R1 575 030.00
   - North-West Department of Education R199 989.34

   2. Subtotal: R3 883 669.34

3. International Collaborators

   - Publications as first authors R1 567 444.00
   - Biochemical analyses (In-kind) R3 984 376.00
   - First author &/Open access (UK, Switzerland, Germany) R 72 000.00

   3. Subtotal: R5 623 820.00

TOTAL: R12 426 189.34

Summary of SABPA study funding and output (subsidy - R106,000.00/article)

Prospective cohort study - costs and output: 2008-

- NWU & NATIONAL
- THIRD STREAM
- INTERNATIONAL COLLABORATORS
- OUTPUT: SUBSUDY (N=80)

8 480 000
5 623 829
3 883 669
2 918 700

TOTAL: R12 426 189.34
C. SABPA POSTGRADUATE and POSTDOC STUDENTS (2008-)

- BSC HONOURS COMPLETED (N=25)
- MSC COMPLETED (N=25)
- PHD (N=7)
- POSTDOC students:
  - S Péter (PhD, MD)
  - M Glynn (PhD)
  - M Möller (PhD)
  - S Hoebel (PhD)

D. SABPA PROJECT INTERNATIONAL AWARD
Study Design Excellence: Metabolic Syndrome Institute (France), New York, USA, 11th July 2008.

E. Invited SABPA INVITED SYMPOSIUM
1124, 68th American Psychosomatic Society Annual Meeting (Chair & Discussant, Prof JCN de Geus, Netherlands): Stress and health in black South Africans: The SABPA Study. Overview of Biomedical Pathophysiology Relevant to Stress and Disease. The Maritime Hotel, Portland, Oregon, USA, 13 March 2010. Plenary addresses [Proff L Malan, JCP Potgieter, BH Harvey (NWU), M Hamer (UK)].

F. Invited SABPA Project (META-ANALYSIS)
1. Prof JBE Tcheugui (MD, PhD), Cambridge University (UK) pertaining hypercholesterolemia prevalence of Africans (2011-).
2. Prof G Parati (MD), Istituto Auxologico Italiano and University of Milano-Bicocca, Milano, Italy. International Ambulatory blood pressure Registry: TeleMonitoring of hypertension and cardiovascular risk project: ARTEMIS (2011-).
3. Prof D Vancampfort, Belgium (Psychomotorisch therapeut). Depression and cardiometabolic health: The SABPA Study (2012-).
4. Prof ML Molendijk, Leiden University, the Netherlands. Serum BDNF concentrations in depression (by antidepressant treatment) and healthy controls (2013-).
5. The #1 Antibody Resource (Emma Russell-Bennett): Request featuring 2013 paper (Int J Cardiol): von Willebrand factor antibodies webpage:

6. Dr M Mathur (MS): The association between perceived psychological stress and telomere length in humans. Quantitative Sciences Unit, Stanford University, USA: https://med.stanford.edu/profiles/profiles/maya-mathur

G. SABPA BEST POSTER AWARD

Alberto Ferrari best poster award (Section: Neural Mechanisms) 21st European Society of Hypertension (ESH) meeting, Milan, Italy, 20th June 2011.

H. SABPA RIPPLE EFFECT: L Malan & NT Malan sparked the concept and implementation of the Hypertension and Training on-campus clinic.

I. SABPA PUBLICATIONS

<table>
<thead>
<tr>
<th>PEER REVIEWED PUBLICATIONS SINCE 2009</th>
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<tr>
<td>METRICS SUMMARY</td>
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<tr>
<td>Peer-reviewed Articles</td>
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<tr>
<td>Peer-reviewed Chapters in Books</td>
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<tr>
<td>One-pager/Editorials (Invited)</td>
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<tr>
<td>Popular manuscript/One-pager</td>
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<tr>
<td>Commentary (Invited)</td>
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<tr>
<td>Peer-reviewed Articles (Impact factors)</td>
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<tr>
<td>IF ≥ 7 (n=4)</td>
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<tr>
<td>IF ≥ 4 (n=15)</td>
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<tr>
<td>IF 0.8-3.99 (n=63)</td>
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Figure 1: SABPA output
POPULAR MANUSCRIPTS AND EDITORIALS


INVITED COMMENTARY


CHAPTERS IN BOOKS


PEER-REVIEWED PUBLICATIONS 2009

2010


2011


2012


2013


2014


2015


J. CONFERENCE PROCEEDINGS
- Plenary/keynote presentations (n=34)
- Published abstracts (n=30)

K. PUBLIC ENGAGEMENT (number of contributions in brackets)
- National & International papers: Burger (1), Volksblad (1), Herald (3), The Star (1); North-West Independent (2); Beeld (3); HORIZON 2020: PanEuropean Networks 2014 (2).
- Radio interviews: SABC Monitor (1); Radio Pretoria (1); OFM (1).
- SABPA project-stress relaxation (2) and feedback workshops: (2).
- Invited Talks (18)
- Ongoing community service monitoring for local and/or referred patients (L & NT Malan & team) (N=133): 24h ABPM & -ECG, 12-lead ECG, IOP, CIMT, plus full report.

L. INTERNATIONAL VISITS TO SOUTH AFRICA
2009: Mr D Mueller, Jena Germany: Training of Dynamic Retinal vessel analyses
2010: Prof J Reid (Glasgow, Scotland): Planning of Blood pressure clinic on Campus (CPD points).
2011: Prof M Hamer & Dr M Reimann: Visiting SABPA, data collection sites, training sessions, planning and discussing data dissemination (CPD points).

2012: Prof Dr T Ziemssen & Dr Ing W Vilser: Keynote address: Hypertension Research and Training clinic Opening.

2013: Prof Dr R von Känel: Visiting SABPA, data collection sites, training sessions (CPD points), planning and discussing data dissemination.